

# THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

VOLUME XXIX

DECEMBER, 1921

NUMBER 10

## Educational News and Editorial Comment

### EDUCATIONAL FINANCE INQUIRY

The American Council on Education announces the appointment of a commission to conduct a comprehensive investigation of educational finance in the United States. For several years legislators, philanthropists, and the general public have been aware of the increasing difficulty of supporting public schools and universities. Educational officers have come to regard the problem of financing education as the outstanding problem now before them. The paramount importance of the matter was emphasized at the citizen's conference on education called by the United States Commissioner of Education in 1920. This conference passed resolutions urging a thorough investigation of the cost of education and of public resources available to support it. A group of the leaders of the Department of Superintendence of the National Education Association meeting in Atlantic City, February, 1921, likewise designated this problem as the most vital one now confronting school administrators and appointed a committee to assist in launching an investigation if means might be found to carry it on.

The American Council on Education has obtained contributions for this purpose, and it is now assured of funds sufficient to undertake such an investigation on a scale never before attempted.

A total of one hundred and seventy thousand dollars has been appropriated for the study by the Commonwealth Fund, the Carnegie Corporation, the General Education Board, and the Milbank Memorial Fund. The council has appointed a commission composed of recognized specialists in education, taxation, and business to conduct the inquiry. The commission consists of the following persons: Samuel P. Capen, director of the American Council on Education, Washington, D.C., *ex officio*; Ellwood P. Cubberley, dean of the School of Education, Stanford University; Edward C. Elliott, chancellor of the University of Montana; Thomas E. Finegan, state superintendent of public instruction, Harrisburg, Pennsylvania; Robert M. Haig, associate professor of business organization, Columbia University; Victor Morawetz, attorney at law, New York City; Henry C. Morrison, formerly state superintendent of public instruction of New Hampshire, professor of education, University of Chicago; George D. Strayer, professor of educational administration and director, Division of Field Studies, Institute of Educational Research, Teachers College, Columbia University; Herbert S. Weet, superintendent of schools, Rochester, New York.

Dr. Strayer has been selected as chairman of the commission and director of the work of the inquiry.

It is generally recognized that during the past decade all kinds of public schools have developed and expanded in an extraordinary manner. The war seemed to stimulate rather than to retard the growth of every grade of instruction given at public expense. What will it cost to support on a uniform basis a system of public education as at present organized? In what way can this undertaking, especially in the rural regions, be reconciled with the other obligations entailed by the conduct of the public's vital concerns? Educational workers and public-spirited citizens throughout the country have agreed that the issue has become one of cold, hard facts.

The primary aims of the Educational Finance Inquiry will be to study in typical states and communities the existing program of public education, the extent to which this program is carried out, and the present and prospective costs involved. It is proposed to investigate the relation of educational expenditures to other

necessary governmental expenditures, the methods of raising revenue for the support of education, the possibility of effecting economies, and the possible sources of revenue not now utilized for the support of education.

#### UNIFORM CERTIFICATE BLANK

At the Atlantic City meeting (1921) of the National Association of Secondary School Principals a certificate-of-recommendation blank was adopted. This uniform blank was devised by a joint committee composed of representatives of the Association of University Registrars and of the National Association of Secondary School Principals.

The blank is a single sheet,  $11\frac{1}{2}$  by  $8\frac{1}{2}$  inches, with only one side to be filled out by the transmitting officer. Two uses may be made of this blank: to certificate high-school students to colleges and universities and to transfer students from one high school to another. The chief advantage of a uniform blank is that the principal of the high school, or his secretary, has to learn to fill out only one kind of blank for certifying purposes and does not have to puzzle over twenty or more varieties issued by the different universities to which his students go.

The National Association of Secondary School Principals has distributed over ten thousand of these blanks. They are sent free to the members of this association; the price to others is one dollar per hundred. Requests for these blanks should be sent to the secretary of the National Association of Secondary School Principals, H. V. Church, J. Sterling Morton High School, Cicero, Illinois.

H. V. CHURCH

#### HIGH-SCHOOL RESEARCH

The high-school teachers of Los Angeles have organized a research council. The purposes of this council are (1) to bring together all scientifically minded junior and senior high school principals and teachers in a common effort to advance secondary education in Los Angeles; (2) to furnish a forum for the scientific study of educational problems; (3) to promote educational research;

and (4) to enable each member to grow in his chosen work in the field of education.

Bulletins of the work of this council are sent out in mimeographed form by the Department of Psychology and Educational Research. The early bulletins are concerned with a number of general problems. The first contains the following list of questions intended to stimulate the members to think along lines which will develop the society in accordance with the purposes stated above:

1. What proportion of my students should be taking a college-preparatory course?
2. For what purpose am I teaching that fourth-period class? Can I list twenty-five objectives which I am planning to reach?
3. Is social need a legitimate criterion for the selection of subject-matter in my courses?
4. How many changes of phase should there be in a high-school recitation?
5. Are there certain intangible qualities in education which cannot be measured?
6. What is my average attention ratio? Is that satisfactory?
7. How can I best use the high-school section of the Department of Psychology and Educational Research?

One of the later bulletins points out in detail the advantages of grouping pupils on the basis of mental ability and the advantages of measuring the results of school work:

The following are some of the advantages of grouping pupils for purposes of instruction on the basis of mental ability:

1. Pupils are able to progress more nearly together. In an ungrouped class some pupils learn five to seven times as rapidly as others.
2. Bright pupils do not learn lazy habits while waiting for their slower brothers.
3. Slow pupils do not rush over unlearned fundamentals in an attempt to keep up.
4. The curriculum can be adapted to individual differences.
5. Methods of teaching can be varied to suit.

The following are some of the advantages of educational measurements for a classroom teacher:

1. They make comparison with fellow-teachers possible.
2. They make comparison with city and national standards possible.
3. They enable her to make her marks more objective.
4. They give her quantitative information concerning the "material" she has to work with.



5. They enable her to experiment scientifically with methods of teaching, textbooks, apparatus, etc.
6. They enable her to show her principal definite units of accomplishment.
7. They enable her to diagnose individual difficulties of pupils.
8. They enable her to give her pupils more intelligent educational guidance.

#### COMPETITION AMONG HONOR SOCIETIES

The National Association of Secondary School Principals created a commission at the Atlantic City meeting to promote the organization of chapters of a national honor society in high schools and to bring about, if possible, an amalgamation of all the honor societies now in existence. The organization of new chapters has gone forward rapidly, but amalgamation seems to have lagged. Existing societies seem to be unwilling to give up their names and special characteristics.

In the meantime, another and highly interesting manifestation of enthusiasm for organization has appeared in the fact that private enterprise has seen in national honor societies a field for profit and possible public service. Circulars are scattered broadcast over the country setting forth the following facts:

The originators of the National High School Honor Society are organizers of pronounced ability in educational work. They have made a study of student organizations and of their effects upon the high-school boy and girl. In this work they have dealt with educational problems as they occur in the classroom and in the administrative ends of education, thus obtaining a view of the field of educational theory and practice which has not been confined to the limits of mere consideration of curricula and schoolroom routine or, on the other hand, of problems of organization somewhat apart from practice.

The world outside of immediate schoolroom activity has claimed their attention and has called for their co-operation and help so frequently that they as school men have been signally able to vitalize this work in the development of qualities of initiative, leadership, and resourcefulness.

Out of these somewhat varied experiences has grown the mature and comprehensive plan of *intellectual competition*. Under the organization of the National High School Honor Society these men have pledged themselves to see this work to completion and are counting on the hearty co-operation of their fellow-workers.

Other literature indicates that an annual fee of \$15 is required of chapters in return for which certain cards and copies of the constitution are supplied.

That the plan is a success so far seems to be proved by the fact that these "organizers of pronounced ability" have now entered a new field, as indicated by the following circular letter:

The inclosed plan for the development of athletic leadership was worked out in practice and is approved by coaches and educators in every type of secondary and advanced schools.

In order to make any competitive game yield the maximum in terms of character and intelligence, boys must co-operate with coaches and must have a clear understanding of the essentials. The "Player's Record Book" defines the essential qualities and provides for self-analysis and analysis of opponents. The duplicate report to the coach will show how the player regards his play.

The player is rated by the coach each week. The coach can at any time strike averages and face the player with a grand average which indicates concretely his worth to himself and to the team.

Coaches have without exception heartily indorsed the plan as a concrete expression of what they are striving for. A. A. Stagg of the University of Chicago pronounces it a plan worthy of the enthusiastic support of everyone. Prof. F. E. Schlatter of Wisconsin says that with the co-operation of the schools of the country it will be the greatest accomplishment in physical education in this generation.

To make the plan effective and to insure its perpetuation, at least five hundred schools must adopt it. We, as school men, are unable to advertise the plan indefinitely or to finance the organization for even one of the four sports for a limited number of schools. It will be evident to you from what we have already done that we have extended ourselves in order to bring the plan to your attention. We need your immediate co-operation to make the league actual.

Printing will be rushed so as to care for all schools that apply for membership. May we hear from you by return mail?

Amalgamation of these public interests under public control is the suggestion which seems highly appropriate after one has read this literature that certainly has in it something of the purely personal and somewhat too much of breathless haste.

#### A PETITION FOR A FEDERAL DEPARTMENT OF EDUCATION

The National Education Association, through its president and with the co-operation of a number of affiliated organizations, has adopted a method of procedure with regard to a federal department of education which is to be highly commended. It has gone

before the President of the United States with a petition and has asked his consideration of the whole matter from an entirely new point of view. This new point of view emphasizes the necessity of federal attention to the great problems of education. It does not ask for federal subsidies as did the original proposal of the National Education Association. There can be no doubt at all that the petition which is now presented to the President will command widespread approval.

The petition is as follows:

On behalf of our respective organizations we earnestly pray that in the reorganization of the executive departments of the government, education be given recognition commensurate with its supreme importance to the Nation. The purpose of public education is to develop good citizens. Since the citizenship of our Nation is but the aggregate citizenship of the states, the Nation is and always must be vitally interested in education.

If the federal government is to perform its proper function in the promotion of education, the department at Washington must be given such dignity and prominence as will command the respect of the public and merit the confidence of the educational forces of the country. The educational leader of the Nation should hold an outstanding position, with powers and responsibilities clearly defined, subordinate to no one except the President.

In view of the reorganization now pending, the present is a most opportune time for giving education its proper place in the administrative branch of the government. On behalf of the national organizations which we represent, each of which has officially taken action in accordance with the prayer of this petition, we respectfully urge that the President of the United States use his great influence to bring about the creation of a department of education with a secretary in the Cabinet.

It is signed by the following persons:

Charl O. Williams, president of the National Education Association; A. Lincoln Filene, president of the National Committee for a Department of Education; Samuel O. Gompers, president of the American Federation of Labor; S. P. Capen, director of the American Council on Education; Azariah Smith Root, president of the American Library Association; Lucile M. Lyons, president of the National Federation of Musical Clubs; George T. Moore, Sovereign Grand Commander of the Supreme Council, Scottish Rite of Freemasonry, Southern Jurisdiction of the United States; Alice A. Winter, president of the General Federation of Women's Clubs; Anne Rogers Minor, president of the National Society of the Daughters of the American Revolution;

Katharine Chapin Higgins, president of the National Congress of Mothers and Parent-Teachers Associations; Rose Brenner, president of the National Council of Jewish Women; Agnes H. Parker, president of the Woman's Relief Corps; Anna A. Gordon, president of the Women's Christian Temperance Union; Walter S. Athearn, chairman of the Committee on Education of the Sunday School Council of Evangelical Denominations and the International Sunday School Association.

The presentation of this petition was accompanied by statements from Mr. Filene, in behalf of the business men of the United States, and Mrs. Winter, in behalf of the organizations of women. Miss Williams, speaking for the educational and labor organizations, made the following statement:

Mr. President, this petition which the committee is now presenting to you asks that education receive primary recognition in the executive branch of the government—that there be created a department of education with a secretary in the Cabinet of the President. It is not notable for the number of signatures that it contains. There is but a short list of fourteen. However, it is tremendously significant for the educated organized public opinion which these signatures represent. Each of the fourteen signers is the president of a great national organization representing a large group of citizens—in certain cases numbered in millions—whose representatives have carefully considered the object of this petition and who, after careful consideration, have expressed themselves as heartily in favor of the end which it seeks to attain.

I would that all the signers of the petition might be present on this occasion. In the absence of certain other signers may I speak especially for the educational and labor organizations of the United States who have made it their aim to promote public education. It is a most regrettable fact—a most unfortunate circumstance for the welfare of this nation—that 5,000,000 school children are today under the tutelage of untrained teachers; that there is an enormous mass of illiteracy which is tinder for the match of the agitator; and that there is a large group of men and women in America who have not been given a reasonable opportunity to know and understand the great traditions of this Republic.

The signers of this petition believe that a department of education can make an enormous contribution to the solution of these and other grave educational problems. We are deeply appreciative, Mr. President, that in recent public utterances you have shown understanding of the problem of education, and we present this petition confident that it is in sympathetic hands and will receive the most serious consideration. We leave in your hands the interests of 27,000,000 school children, 700,000 school teachers, and the future of this country.

## INCREASE IN SCHOOL POPULATION

The Bureau of the Census has issued a statement with regard to the increase in school population during the past decade. The statement is as follows:

WASHINGTON, D.C., November 2, 1921.—The Department of Commerce, through the Bureau of the Census, today issued a preliminary statement giving statistics of school attendance, by geographic divisions and states, compiled from the returns of the Fourteenth Decennial Census, taken as of January 1, 1920.

The total population five to twenty years of age, inclusive, enumerated in continental United States numbered 33,250,870. Of this number, 21,373,976 attended school at some time between September 1, 1919, and January 1, 1920. The total population seven to thirteen years of age, 15,306,793, included 13,869,010 children attending school. The percentage attending school among the population five to twenty years of age increased from 59.2 for 1910 to 64.3 for 1920; and the corresponding percentage for children seven to thirteen years of age increased from 86.1 for the earlier to 90.6 for the later year.

Among the individual states, the largest proportion attending school in the 5-20 age group, 73 per cent is shown for Utah, and the smallest, 53 per cent, for Louisiana. In six states—Iowa, Nebraska, Montana, Idaho, Utah, and Oregon—the proportion of school attendance for this age group was more than 70 per cent.

For the 7-13 age group the largest proportion of school attendance, 96.1 per cent, is that for Massachusetts, and the smallest, 75.9 per cent, for Louisiana. In seven states—Massachusetts, Rhode Island, Ohio, Iowa, Delaware, Idaho, and Utah—the proportion was 95 per cent or more.

Following this general statement, figures are given for school populations of various types in the different states and different sections of the country. These figures cannot be reproduced here in full, but the general summary is presented in the table on page 730.

A number of interesting inferences can be drawn from a study of the comparative increases in the attendance of the different groups of pupils enumerated in this table. Where the increase in percentage of attendance for all pupils in the schools is greater than the increase in percentage of attendance for the children of seven to thirteen years of age it is evident that the high-school population has increased relatively more rapidly than has the elementary-school population.

For the country as a whole there has been a very distinct increase in high-school attendance above the increase in the lower

schools. For certain sections the same holds true. Thus in the New England states, in the Middle Atlantic, East North Central, Mountain, and Pacific states, it is the high-school population that has increased most conspicuously. In the other four sections of the country, namely, the West North Central, South Atlantic, East South Central, and West South Central, the greater increase has been in the elementary schools. This latter fact is undoubtedly to be explained by the steady improvement in compulsory attendance laws in these sections.

The main fact shown by the figures is the one mentioned at the outset, namely, the very impressive continuation of increase in high-school attendance throughout the country as a whole.

PERCENTAGE OF SCHOOL ATTENDANCE IN VARIOUS  
SECTIONS OF THE COUNTRY

GEOGRAPHICAL DIVISIONS	PERSONS FIVE TO TWENTY YEARS OF AGE		PERSONS SEVEN TO THIR- TEEN YEARS OF AGE	
	1920	1910	1920	1910
New England.....	67.6	64.5	95.3	95.2
Middle Atlantic.....	64.8	60.3	94.3	93.0
East North Central.....	66.6	62.5	95.1	93.4
West North Central.....	68.5	68.5	93.9	91.5
South Atlantic.....	60.2	53.3	85.6	75.6
East South Central.....	60.9	54.6	83.6	75.0
West South Central.....	58.7	53.5	82.5	74.7
Mountain.....	68.4	61.8	91.8	86.4
Pacific.....	69.5	62.3	94.1	91.2

#### THE LATIN INVESTIGATION

The committee of the American Classical League which is investigating the general problems of the teaching of Latin has launched its work and is now engaged in carrying on a number of tests in different parts of the country.

The committee is seeking the co-operation of those who are interested in these topics of investigation or in similar lines which may be projected later, and asks that correspondence in regard to such possible co-operation in conducting this work be addressed to one of the members of the working committee, as follows: Mason D. Gray, East High School, Rochester, New York, or W. L. Carr, 40 South Professor Street, Oberlin, Ohio. Certain suggestions have

been issued by them with regard to possible inquiries which such interested persons might take up.

1. An important problem connected with the comparison proposed between the results secured in the American secondary school and those secured in European schools is the determination of the approximate amount of preparation required abroad before Caesar is begun, as compared with that required here, and also the approximate time allotted for the reading of four books on the basis of this preparation.

2. The compilation of a series of appropriate selections, extracts, and passages from classical authors in translation to accompany the study of Latin from the beginning, selected primarily on the basis of their inherent appeal to the natural interests of the pupils, but giving, at the same time, a picture of Roman life and ideas and, incidentally, a general view (although unsystematized) of Roman (and possibly Greek) literature.

3. A thorough linguistic analysis (so far as Greek and Latin are concerned) of the list of 10,000 words most commonly used in English just published by E. L. Thorndike (Bureau of Publications, Teachers College, New York City, 65 cents); and the determination of the Latin words associated with the largest number of them.

4. An analysis of the Latin vocabulary most important in enabling pupils to understand the vocabulary of the Romance languages.

5. A statistical investigation of the proportion of Latin pupils who study French, Spanish, or German previously, contemporaneously, or subsequently.

6. A statistical investigation of the proportion of Latin pupils who study science (biology, physiology, general science, physics, chemistry) previously, contemporaneously, or subsequently.

7. By January, 1922, an investigation will be completed involving the collection and counting of the actual Latin occurring in present-day environment (newspapers, books, and periodicals). This investigation offers material for study in two different directions: (a) An analysis of the material on the basis of relative importance and of the relative desirability of including the various items in class instruction, and (b) An analysis of the content of this material as to vocabulary, syntax, and forms.

8. A similar investigation will be completed at the same time involving the occurrence in contemporary literature of classical references and allusions. This investigation offers abundant material for a scholarly analysis of the extent to which classical ideas permeate modern thought.

#### SUPERVISING LANGUAGE HABITS THROUGHOUT A SCHOOL

The editors have received from Principal L. D. Morgan of the Hampshire (Illinois) High School, a communication describing a system of supervising English throughout the school. Three essential features mark the plan. First, under the leadership of



the principal, all pupils are instructed to use correct English in all of their written work, and all teachers are directed to insist that pupils obey this injunction. Second, a uniform code for indicating errors is used by all teachers. The code, moderate in scope, is designed to call attention both to minor matters of mechanical correctness and to a few vital matters of grammatical and rhetorical accuracy. Third, on every written paper except those prepared for English classes, are placed two marks, one for subject-matter, one for English. At stated intervals the English department assembles the various English marks and gives to them appropriate consideration in determining the final English grades.

The Hampshire plan, with its vigorous administrative leadership, its definite standards and codes, its double-marking system influencing English credit, embodies the best features of similar experiments now going forward in many schools. There can be no question that such plans are sound in principle. Language habits are not generalized habits; they are the products of all writing and speaking experiences whether in school or out. Just so far as possible, errors which are earnestly attacked in English-drill periods must not be allowed to crop out undetected in other classes. Unfortunately, lapses of the playground and the home cannot be prevented; but lapses in other schoolrooms certainly should not be allowed to occur. "Allow no exceptions" is a basic rule of habit formation.

Again, steady and persistent pressure from above is often necessary to induce teachers themselves to use decent English. Slang, mispronunciations, foreign idiom, and bad grammar are not uncommon in the daily speech and writing of many teachers. The profession as a whole is far from conforming to the standard set by Charles W. Eliot, who says, "I recognize but one mental acquisition as an essential part of the education of a lady or a gentleman, namely, an accurate and refined use of the mother-tongue." Bad examples are set for the children by teachers who allow themselves to fall below that standard of refinement. The fact is that both pupils and teachers can and will use better English if their attention is forcefully directed to the need and if a clear-cut, workable program of supervision is installed and maintained.

R. L. L.

## **News Items from the School of Education of the University of Chicago**

### **A CORRELATION OF TEACHERS' GRADES AND THE SCORES OF INTELLIGENCE TESTS**

The purpose of a recent study by John W. Shideler, A.M., Fort Scott, Kansas, was to find some means of supplementing teachers' judgments of pupils in order to determine more definitely whether each pupil in a given high school was accomplishing all that might be expected of him. For this purpose the Terman Group Intelligence Test was given to 170 high-school pupils, and the scores were correlated with the combined grades of both semesters of 1920-21 in all of the subjects which these pupils had taken. An analysis of the data which were secured led to the following conclusions: (1) There is some correlation between teachers' grades and the results obtained through intelligence tests. (2) The correlation is higher in subjects which are purely academic and taught by traditional methods. (3) The correlation is less marked in the so-called drill subjects and in all academic subjects in which laboratory methods of teaching are used. (4) The correlation is less marked in subjects in which the teacher has an opportunity to hold the pupil to the task until he has mastered it. (5) Intelligence tests are valuable as a supplement to teachers' judgments in determining whether pupils are working up to their mental capacity. If too much reliance is placed on them, grave danger may result from their use.

### **A STUDY OF THE CURRICULA OF CITY TRAINING SCHOOLS**

In an effort to evaluate recent tendencies in the curricula of city normal schools, Gertrude F. Eaton, A.M., Sioux City, Iowa, recently made an analysis of the courses of study of about thirty institutions. In canvassing the sources of data it developed that

few city training schools publish regular yearly reports or bulletins of information. Sixteen bulletins, supplemented by personal letters from principals describing the courses of study of fourteen other schools, constituted the main sources of data for the study. The schools studied were all east of the Mississippi, except Kansas City, Kansas, and included the largest cities of the country, such as New York, Brooklyn, Philadelphia, Boston, Chicago, Washington, Cleveland, Detroit, Indianapolis, and others, to the number of thirty.

The curricula were analyzed with reference to the time involved, and the subjects were classified and reduced to a time basis, the sixty-minute hour being the common unit of measure. The following conclusions are both interesting and significant: (1) Admission to city normal schools is generally based upon high-school graduation. (2) City training school curricula are for the most part prescribed in detail. Five schools permit electives. The tendency in newly organized curricula in the larger schools is to permit more elective work. (3) City training schools usually require two years of work of elementary-school teachers. Boston and Sioux City require three. (4) The amount of work required in these curricula varies from 1,200 to 2,030 sixty-minute hours of recitation and laboratory work. (5) The weekly load varies from sixteen to thirty periods per week, the median being twenty-five. The median period is fifty minutes in length. (6) In recently reorganized schools there seems to be a tendency to lessen the weekly requirement to a number of semester hours resembling more nearly the requirements in colleges. (7) The city normal school is primarily apprentice and professional in type. Less than one-fourth of the total time is devoted to cultural and academic subjects. (8) Facilities for practice-teaching are in general better than in state normal schools, and more than the maximum amount recommended for normal schools is required in nearly every city normal school.

## BASES ON WHICH STUDENTS CAN BE CLASSIFIED EFFECTIVELY

FRANK N. FREEMAN  
University of Chicago

In order to determine how students should be classified and what instruments can best be used for making the classification, we should have in mind the reasons why they ought to be classified. The manner of carrying out the classification depends upon the aims which we have in making it.

The classification of pupils goes back fundamentally to our general theory of group instruction. If pupils are to be taught in groups, then obviously some principle must be found according to which they shall be grouped. It is, of course, not necessary to go into any detail in support of the practice of group instruction. While many modifications have been made and will continue to be made in the type of group instruction and in the manner of making up the group, there seems to be no likelihood that the method will be abandoned. It rests, in the first place, on economy. Economy, however, is a consideration which might be regarded as incidental. A more fundamental reason for grouping is the mutual stimulation which comes from it. There is much stronger incentive to intellectual activity in association with others than in solitary study. In fact, this sometimes appears to be the chief incentive to a great many types of school work.

In addition to this intellectual value from grouping, appears the training which pupils receive in making social adjustment and in learning to work co-operatively with others, as well as the pleasure and satisfaction which they derive from their school association. Group instruction, then, may be considered as an established method.

The chief basis of classification has grown out of the grading system, and this in turn has depended upon age as its basis. The time of entrance upon school work, the time of promotion, and the

time of graduation have been based fundamentally on chronological age. As a consequence, the pupils who are thrown together have been theoretically those of the same age.

The age basis, however, has proved inadequate, at least under existing conditions. The chief ground of this inadequacy is the intellectual inequality or the differences in intellectual maturity of pupils of the same age. This inequality is a matter of very frequent comment, and many investigations have given objective evidence upon it.

TABLE I  
VARIATIONS IN PROGRESS OF PUPILS DURING TWELVE WEEKS OF DRILL IN  
ARITHMETIC\*

	AVERAGE DAILY SCORE FOR EACH WEEK											
	1	2	3	4	5	6	7	8	9	10	11	12
Pupil A:												
Attempts.....	3.2	3.3	3.5	3.7	3.8	3.9	3.7	3.4	2.8	2.6	2.6	2.7
Rights.....	.0	.0	.1	.1	.1	.0	.0	.0	.1	.2	.3	.4
Pupil B:												
Attempts.....	11.2	12.0	13.2	14.3	15.3	16.1	16.8	17.2	17.5	17.8	18.0	18.2
Rights.....	8.6	9.2	10.3	11.5	12.6	13.4	14.0	14.5	15.0	15.6	16.2	16.5
Poorest quarter of entire group:												
Attempts.....	5.1	5.3	5.6	5.9	6.2	6.4	6.4	6.4	6.5	6.6	6.8	6.9
Rights.....	1.4	1.5	1.7	2.0	2.2	2.3	2.4	2.5	2.6	2.7	2.7	2.6
Best quarter of entire group:												
Attempts.....	7.6	8.2	9.1	10.1	10.9	11.5	12.1	12.6	13.0	13.4	13.7	13.9
Rights.....	4.5	5.2	6.2	7.2	7.9	8.5	9.0	9.3	9.5	9.6	9.7	9.8

\* Quoted from an unpublished report by L. O. McAfee, superintendent of schools, Pony, Montana.

A few concrete illustrations may appropriately be offered in support of the general position that age is not a completely satisfactory basis for classification. In Table I are shown the records of certain pupils who were given twelve weeks' drill in column addition. The records designated A and B give the average standing of two individual pupils for each week of the experiment. In the first line of each record are given the attempts and in the second line the rights. It will be seen that pupil A attempted an average of from 2.6 to 3.9 problems. For five of these weeks the average rights was zero. The highest average was four-tenths of a problem. Throughout nine weeks there is no evidence of any

gain. The slight gain at the last may not be permanent. In the case of pupil B the gain is marked in both attempts and rights. The scores in both are high throughout the entire period, and the ratio of rights to attempts is high and increases consistently. Whatever may be the cause of this difference, there could hardly be a sharper contrast than is found here between the attainments of two pupils under identical conditions of practice.

That these are not isolated cases is shown by the average scores of the best quarter of the pupils and of the poorest quarter. The gain made by the best quarter is greater, absolutely and relatively, than that made by the poorest quarter. At the end, the score in rights of the best pupils is nearly four times as high as that of the poorest pupils, and the ratio of rights to attempts is much higher in the case of the best pupils. It would hardly be possible to imagine stronger evidence of the need of giving some kind of differential treatment to the pupils of greater and of lesser ability. Classification may not be the only solution of the problem of treatment, but at any rate it suggests itself as one of the means at hand for dealing with such pronounced differences.

To this evidence from school achievement may be added the evidence from so-called intelligence tests. Three simple illustrations may be taken. We may compare the range of ability of pupils of a given class or of a given age with the annual increment in ability, or the advance in score, resulting from a year's development. In the case of the Chicago Group Intelligence Test, for example, the range of the middle 50 per cent of the ninth grade is about eight points. The gain which is made from one grade to another is five points. The middle 50 per cent therefore have a range which is one and three-fifths times as great as the yearly gain. In the Otis test the range of the middle half of the thirteen-year-old pupils is three times the increase from the twelfth year to the thirteenth year. In the case of the Pintner Non-Language Test, the range of the middle half of the twelfth year is seven times the annual increment.

One final illustration. In a neighboring high school, as reported to the writer by E. L. Moyer, the Freshmen students in mathematics were divided into three groups on the basis of intelligence-test

scores. The three groups were given the same subject-matter, but it was adapted so far as possible to the ability of the pupils. In spite of this adaptation, 50 per cent of the failures of the entire class were found in the lowest third.

It is true that such facts as these may perhaps not be taken at quite their face value. The experiments which are being conducted in the laboratory schools of the University of Chicago, under the direction of Professor Morrison, suggest that the differences in the achievements of various pupils may be accounted for in part by gaps in previous preparation. A pupil's failure in a class may be due in part to the lack of understanding of topics which are prerequisite to the one he is studying. With due allowance for such possibilities, however, the fact remains that some pupils overcome such handicaps more readily than others. A bright pupil may even skip an entire grade and not be especially handicapped thereby. The gaps in pupils' understanding may be evidence that slowness of apprehension prevented their understanding a topic when it was presented in class. There seems to be such abundant evidence of marked differences in capacity that the problem of differential treatment becomes a very serious one.

There have, of course, been many attempts to adapt instruction to the inequalities of pupils within each age group. One general class of attempts retains the fundamental age group and endeavors to do away with retardation by some type of individual help, as in the Batavia Plan. Such schemes do not permit a radical change of the curriculum in adaptation to the ability of individuals, nor do they allow variations in the speed with which pupils may master it.

More radical plans involve dividing pupils into ability groups at different age levels. These groups may then follow the same general curriculum but may pursue the work with a different degree of thoroughness or detail. A still more radical method is to break up age levels by allowing either individuals or groups to advance more rapidly or more slowly, with or without a change in the character of the work pursued by the different groups.

A classification of pupils on the basis of age levels or other developmental levels may be called a horizontal classification. Classification within one of these levels into groups which are



defined according to ability may be called vertical grouping. What are the fundamental considerations demanding the one or the other of these types?

We may consider broadly two general bases for grouping, the social and the intellectual, and their relationship to the horizontal grouping and the vertical grouping. There is satisfactory evidence that children go through certain developmental stages in their social reactions and that these stages determine to a large degree the groups into which they should be placed. Such stages are illustrated in the play types which are characteristic at different ages. If the social basis of grouping is of any importance, as has been maintained, then such a consideration as this demands horizontal classification based upon developmental stages. Chronological age serves as a rough criterion for such classification, but a more accurate basis is physiological age. We do not possess as yet an accurate and convenient method for diagnosing physiological age, but such facts as height, weight, rate of growth, dentition, and the pubertal signs serve as useful provisional criteria. The level of social development as indicated by physiological age, then, serves as one basis for a rough classification according to developmental levels.

On the intellectual side we have at least two possible types of criteria for classification. The first is somewhat analogous to the classification on the basis of social development. It is perhaps more problematical whether there are stages in intellectual growth which correspond to the stages in social development already mentioned. The matter may be cleared up by a distinction between mere intellectual ability and type of intellectual interest. The evidence seems to indicate pretty clearly that whatever the capacity of children at various stages, their interests show fairly well defined stages of development. This factor may be taken to determine the subjects or the topics which are suitable for a pupil at a given stage, while the level of work, or the depth to which the child can penetrate in pursuing a given type of work, may vary according to his ability.

It is customary to interpret the results of intelligence tests as indicating a gradual growth in ability, on the one hand, and identity between the ability of brighter pupils at the lower ages and average

or dull pupils at higher ages, on the other hand. This conception may be illustrated graphically by the growth curves from one of Pressey's tests (Figure 1).<sup>1</sup> We see that the improvement of the ten-percentile, the median, and the ninety-percentile children is approximately constant in rate. The ninety-percentile child at eight years, moreover, is about equal in ability to the median child at ten years. According to such a chart as this, if taken at its face value, it would be perfectly legitimate on the intellectual side to

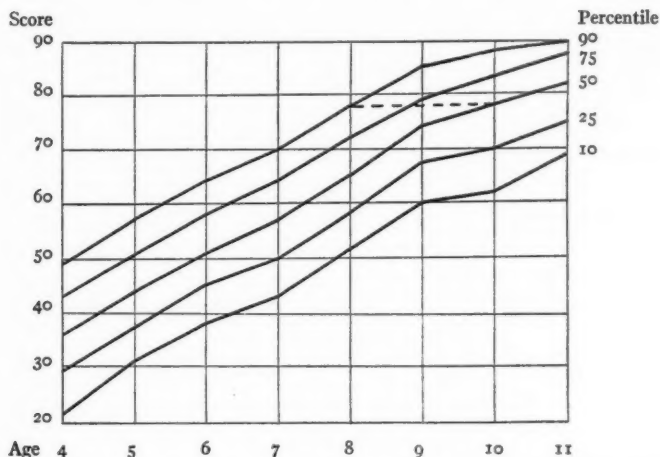


FIG. 1.—Curves for the various percentile groups in the Pressey Cross-out Test

group together children of very widely different ages and of very widely different stages of physical development.

From the results of a more detailed type of test, however, we get a different picture. Figure 2 represents the growth curves of children at eleven different levels in the Picture Completion Test, as reported by Pintner.<sup>2</sup> The lowest curve is made from the lowest records of the respective age groups of children. Each of the succeeding curves is made from the next higher ten-percentile scores

<sup>1</sup> This figure has been drawn from unpublished norms communicated by Dr. Pressey.

<sup>2</sup> R. Pintner and M. M. Anderson, *The Picture Completion Test*. Baltimore: Warwick & York, 1917.

of the various age groups. Thus, each curve represents the mental growth of the typical child at a given level of intellectual ability. We see that in this more particular or specialized ability there is a marked crisis in development at a particular age, namely nine years, rather than a constant growth at uniform rate throughout the entire period of childhood. We see, moreover, that this acceleration in growth comes at the same age for the superior and inferior children as for the average child. This suggests that in the case of particular

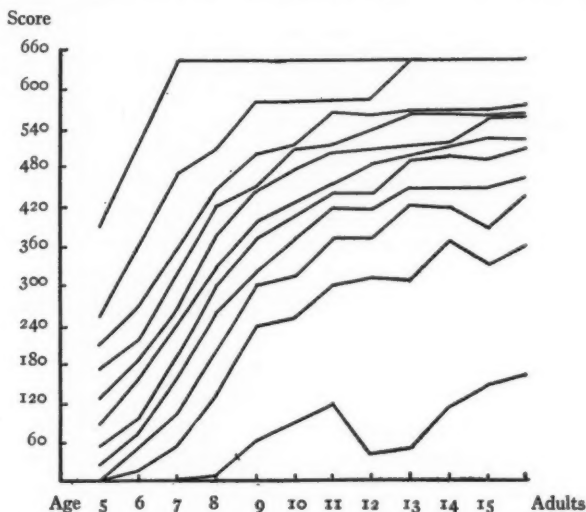


FIG. 2.—Age-progress curves of eleven ten-percentile groups in Picture Completion Test.

abilities, whatever may be true of a composite of many abilities, there may be stages in development which correspond to given stages in physiological growth and which are common to children of widely different degrees of intellectual ability. If this is true, it indicates that there are intellectual as well as social factors which point to the need of a basic horizontal grouping.

The necessity of vertical grouping on the ground of intellectual differences is evident from either of the two figures as well as from the facts presented earlier. Even if children go through similar

intellectual stages at similar developmental periods, they go through these stages at widely different levels. These differences in brightness, as we may call them, would seem to demand a classification running in the other dimension than the developmental one, and it is with the technique of making this classification that we are now concerned.

The fundamental criterion for making this vertical classification must be considered to be ability to do school work. This ability is, of course, a composite affair and needs to be analyzed, but the most useful procedure is, first, to obtain an estimate of the pupil's ability by an undifferentiated measure and, then, to determine the factors which enter into the pupil's ability to do school work, so that we may know how to deal with his case individually.

The most direct measure of the pupil's capacity to do school work is his past school record. Investigations have shown that there is a fairly close correlation between the pupil's relative standing in one school or one grade and his relative standing in the succeeding school or grade. In Clement's<sup>1</sup> investigation it was found that when the pupils of the elementary school were divided into three groups according to their average standing, 75 per cent of those in the upper and lower thirds remained on the same side of the median in high school. The same relation was found between standing in high school and college. Dearborn<sup>2</sup> also investigated the relation between high-school standing and college standing and found that on the average over 50 per cent of the pupils in the highest fourth and in the lowest fourth in high school remained in the corresponding fourth in the Freshman year of college. Similar correspondence was found by President Lowell<sup>3</sup> between college standing and professional-school standing.

The tabulation of the pupil's standing in the lower school presents some difficulties. It has the advantage, however, of being the same kind of composite which is measured by the standing in the high school. When it can be obtained, its correlation with

<sup>1</sup> J. A. Clement, *Standardization of the Schools of Kansas*. Chicago: University of Chicago Press, 1912.

<sup>2</sup> W. F. Dearborn, "The Relative Standing of Pupils in the High School and the University," *Bulletin of the University of Wisconsin*, No. 312, 1909.

<sup>3</sup> A. Lawrence Lowell, "College Studies and Professional Training," *Educational Review*, XLII (October, 1911), 217-33.

subsequent standing is about the same as is the correlation between intelligence tests or a series of examinations with this subsequent standing.

If our interest were simply in making a rough classification and prediction of the achievement of pupils in the high school, we might regard the intelligence test as being as satisfactory as the school standing. There is an important reason, however, why it is desirable to use both measures. Because the school standing gives a composite measure and the intelligence test a somewhat more narrowly defined measure, it is possible by a combination of the two to make an analysis of the pupil's ability which could not otherwise be made. Such an analysis is particularly demanded where the pupil's school record and his intelligence-test record show wide discrepancies. This discrepancy may indicate a superior standing in the test to that in the school or an inferior test rating. In either case, it is apparent that the two are measuring somewhat different abilities, or that one or the other is inaccurate as a measure of the pupil's capacity.

An illustration of the variation in the factors measured by the test and the school standing may be borrowed from a study by Bracewell.<sup>2</sup> He found three students in a Freshman class who were ranked in the highest third by the tests, but in the lowest third by the teachers. An analysis of these cases revealed that the first was addicted to cigarettes and put very little effort into his school work. He later raised his school standing to the middle group. The second was a country girl who had had very meager educational advantages. She had never read a book or written a letter, and English was very poorly spoken at her home. The third was in very poor health and was absent from school a large share of the time. Of forty pupils ranked in the middle section by the test, thirteen were ranked in the top section by the teachers. These pupils were discovered to be unusually industrious and conscientious in their work. Such facts as these, which are of great significance in dealing with pupils, can be discovered only by a comparison of the general school rating with the rating in the tests.

<sup>2</sup> Ray H. Bracewell, "The Freeman-Rugg General Intelligence Tests as an Aid to Economy in School Administration," *School Review*, XXIX (June, 1921), 460-66.

Tests are valuable, then, in that they help to interpret the pupil's school record. On the other hand, the school record and teachers' judgments are often valuable as means of interpreting the results of tests. The tests do not furnish a complete measure of the capacity which underlies achievement. They do measure fairly accurately ability of the academic type under the conditions of a spurt in which speed is an important factor. They fail to measure, in anything like the same degree, the pupil's staying power, his ability to organize large masses of material, and his independence and initiative. They often do some injustice to the comparatively slow, but accurate, and perhaps profound student. On quite another ground, they sometimes do injustice to the nervous student who is easily flustered under test conditions. Pupils who do not make an especially high score in the test, because of such factors as these, may do much better work in the course of their school work.

Tests, school work, and teachers' judgments should be used in conjunction with one another even in estimating the pupil's probable intellectual achievement or the intellectual factors in his achievement. But there are other characteristics of a non-intellectual sort which also contribute to the pupil's achievement. These characteristics are sometimes summed up under the head of school attitude. One pupil is docile, tries to please, and is interested in securing the approval of the teacher. Another pupil is indifferent and perhaps even obstinate or disgruntled. Such characteristics as these form a part of the foundation of the pupil's achievement and are not revealed by the tests. They can be estimated by teachers. Frequently the judgments of different teachers on such characteristics as these differ widely. Such variation, indicating the difference in reaction of the pupil to different teachers, may be an important part of our information concerning him. Traits of the type here considered are sometimes termed character traits or moral traits. We might extend the list of these traits to considerable length, but the illustration already given is sufficient.

Traits which seem to be moral or intellectual sometimes prove on examination to be physical. The study of the pupil's health and physical strength is therefore a very desirable supplement to

the other types of examination. Home conditions and general environment also suggest themselves as factors which are frequently important in pupils' school work.

Some such procedure as the following would seem to be warranted by the foregoing facts and considerations. In the first place, the pupil's position in the horizontal grouping should be determined as accurately as possible by the methods which have thus far been perfected. This is, of course, a matter which concerns the pupil's progress all along the line and somewhat more in the elementary school than in the high school. But it concerns the entrance of the pupil into the high school, his progress through it, and is very pertinent to the organization of the junior high school.

In the second place, the pupil's position in the vertical grouping is to be found. If an adequate rating in terms of previous school standing can be obtained, it is suggested that this be used to determine a preliminary or trial placing. Otherwise, an intelligence test should be used for the trial grouping. If school standing is used as the first measure, the standing in a mental test should be found and compared with this school standing. Those pupils whose school standing and test rating correspond may be considered satisfactorily placed. A more careful study should be made of the discrepant cases by gathering estimates of teachers on such matters as temperamental, moral, or character traits and school attitude. The pupil's interests and aims should be investigated. His physical condition should be examined. His environment, home and other, should be inquired into in search for conditions which may be injurious to the pupil physically or mentally or which may perhaps be especially favorable. Such detailed study may enable us not only to place the pupil according to his probable achievement but also to say why he is placed as he is and in some cases to discern the possibility of bringing about an alteration in his achievement so that his classification may be raised. For after all, our aim is not merely to measure the student's actual achievement and to classify him accordingly; it is also to discover his potential achievement and to stimulate him to attain it.



## THE DRAMA COURSE IN THE UNIVERSITY HIGH SCHOOL

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A course in drama was organized as an elective English offering for Juniors and Seniors of the University High School in 1917. The class meets five times a week, and upon completion of the year's work the pupils are granted one full unit of high-school English credit. The purpose and function of the course were set forth by Mr. Theodore B. Hinckley, who first offered it, in an article<sup>1</sup> published in 1918, as primarily an attempt to give greater unity than is usual to a portion of the high-school curriculum in English. It was conceived that frequently a year of high-school English instruction offers for the intellectual nourishment of the pupil a mixture of isolated classics, excellent in themselves, but unrelated either to one another or to any of the phenomena of current life as boys and girls are already beginning to observe them. The drama, it was believed, offered a unique opportunity for presenting a well-organized body of literary material which would at one and the same time serve as a "mirror of social thought, ethical standards, and the better class of popular reactions to life," and give "room for a vital introduction of poetry and of the classic, romantic, and realistic points of view." It was expected, also, that the course would take care of the popular desire to give "shows," rendering this pupil activity educationally effective and cultivating among the pupils sounder standards of taste in art and literature than are generally prevalent.

The success of the course seems fully to vindicate the confidence placed in it by the first instructor and to justify its continuance in the curriculum. As reorganized for the year 1920-21, the objectives of the course were twofold. It is assumed that the

<sup>1</sup>Theodore B. Hinckley, "Drama and the English Course." *School Review*, XXVI (June, 1918), 423-37.

function of high-school English instruction presents two fundamental aspects: (1) the leading of pupils into appreciation and enjoyment of the best in literature and (2) the cultivation of skill in oral and written expression of their own rapidly developing personalities. Applied to the study of the drama, this conception of the aim of English instruction calls for (1) an introduction to an appreciative and critical enjoyment of plays and (2) utilization of the several avenues of self-expression which play-interest and play-study open.

The first step toward appreciation of a literary classic by high-school boys or girls is the creation of an honest attitude of enjoyment or at least of expectancy. They like a book or they do not like it, and honest modern children are not inclined to profess a liking for a classic because it is meet and right, or expedient, so to do. Many adults exercise the same prerogative of candid judgment with no truer criteria than those of the adolescent. It becomes, then, the task of the skilful teacher so to guide the reading of the pupils and fashion its methods as to stimulate the boys and girls to sound appreciative reactions which they will feel are quite spontaneous. The drama offers a peculiarly serviceable medium through which to arouse latent powers of appreciation. The play-acting instinct is strong in children and at the age of sixteen has not usually been suppressed by self-consciousness. A source of real pleasure is soon discovered in the activity of impersonation involved in a class reading of a play. After the pupils have acquired in this way some ease and skill in reading current plays, it is but an easy step to advance to classic examples.

The study of plays, moreover, provides an effective impetus toward composition. Most people are sufficiently moved by seeing or reading a play to wish to express an opinion on its beauty, its truth, or both. It is no small part of the avowed business of drama since the days of Aristotle to stimulate the emotions of the audience. Out of an emotional stir comes often the impulse to create. The very objectivity of the dramatic form, especially when acted upon the stage, furnishes the pupil with a more concrete basis for his likes and dislikes than he usually can find in the novel or other similar literary form. Add to this the impulse to expression

derived from his emotional reaction to the play, and his reviews, criticisms, appreciations, or more original compositions, which grow out of the experience lose most of the artificial quality usual in such high-school exercises and become spontaneous units of self-expression. It was hoped, therefore, through the medium of a course in drama, to acquaint a group of high-school boys and girls with a unified mass of good literature, to create and cultivate standards of good taste in at least one art, and to open new avenues of mental growth and personal expression.

The pupils in this section are not selected because of special aptitudes or proved ability in English. A few last year elected the course because of a genuine interest in dramatic literature or in the theater. More chose it because additional work in English was required and this course possessed the lure of novelty. The class began the year with an enrolment of thirteen girls and four boys, at least half of whom showed a record of mediocre or inferior accomplishments in previous courses in English. Adjustments due to illness, necessary changes of program, or other exigencies, left us by the end of the first semester with a working section of ten girls and five boys, not a very encouraging sex ratio for effective study of plays, most of which present a plurality of male rôles. At least three of the pupils were considered indifferent students. One of these proved to be a good worker in all the phases of this course. The section might be considered as fairly representative of the usual high-school section of Senior English in matters of ability or interest in and aptitude for English.

The first week of the course is devoted to the preparatory step of discovering, through informal classroom discussion, just what is actually familiar to the pupils in plays and in the vocabulary of the theater. Deficiencies in vocabulary and definition are supplied by lectures and by pupil reports on assigned readings. In this way there is accomplished brief exposition of the essential terms relating to stagecraft and dramatic technique and to this is added a very brief outline of the history of drama and its place in literature, especial attention being given to its antiquity, its naturalness as a mode of expression, and its origins, both in ritual and in folk dances and games.

The play-content of what we may call the appreciation phase of this course is arranged for study with a view to proceeding from the familiar to the strange or totally unfamiliar subjects of dramatic literature. The pupils are introduced for their first study to the great mass of one-act plays which have appeared in the last twenty years. These are chosen, first, because their subject-matter and the people represented are usually thoroughly modern, of current interest, and, therefore, most easily comprehended by boys and girls. Then, too, for those who are quite unused to reading in the dramatic form, the short plays present a less extended and formidable task than the more elaborate pieces. In the first six weeks of the course the pupils become personally familiar with from sixty to one hundred short plays.<sup>1</sup> To facilitate the use of the library material, assignment cards are prepared for all the single plays and volumes of plays in the school library. The pupils choose their daily reading assignments from these cards. The books are loaned on a twenty-four-hour reserve and are thus kept in active circulation. Each pupil brings to class with him his book assignment of the day, so that at any class period a wide variety of plays is available in the room.

The wide reading and study of one-act plays soon reveal to the pupils certain clearly marked types of dramatic writing. They learn to distinguish comedies of manners, didactic plays, tragedy as heroic or domestic, comedy of situation and of repartee, melodrama, and farce. Out of these by no means sharply marked classifications, grows the order of procedure which is followed in studying the longer plays for the rest of the year. Thus, the second project treats of didactic plays of today; the third is in modern comedies of manners, the fourth in eighteenth-century comedy of manners; then follow, in order, Elizabethan comedy, Elizabethan tragedy, miracles and moralities, masques and pageants, classic Greek drama, and historical survey. In each of the play-reading projects the procedure in general is (1) interpretation by the instructor of a specimen of the type under consideration and (2) extensive reading

<sup>1</sup> A most satisfactory collection of plays for this introductory study is that of Margaret G. Mayorga entitled *Representative One-Act Plays by American Authors* (Little, Brown & Co.).

and study by the pupils of plays of this type. Each pupil keeps a card-index record of his reading.

The use of the class hour is varied for the sake of maintaining interest and in such manner as to keep the instructor in touch with the various kinds of work the pupils are doing. Once or twice a week the instructor reads and interprets a short play or a suitable scene from a longer piece, which is then discussed by the pupils as to content and style. Some entire periods and portions of others are given over to silent reading. Individual conferences are held at this time. From time to time suitable plays are read aloud and acted by pupils on the classroom stage, the parts having been assigned a day or two in advance to permit the actors to gain some familiarity with their lines. The class procedure is further varied by pupil reports upon plays witnessed at the Chicago theaters, or upon problems of technique or stagecraft which individual pupils find of interest. The members of the class are urged to attend some of the best plays of the current season. Among the plays most fruitful of discussion the past season were *The Passion Flower*, *Abraham Lincoln*, *Happy-Go-Lucky*, *Declassé*, *Samson and Delilah*, and *The Tavern*. The pupils come to view the plays they observe with an appreciative eye for the subtler details of acting and stagecraft and a mind alert for effective situation and line.

In the study of didactic plays, a project which extends in time from the middle of November until Christmas, Galsworthy's *Strife* is utilized as a specimen of the type for oral reading and interpretation. It supplies a great deal of material for discussion, both as a drama and as an exposition of a current industrial problem. The pupils meanwhile read extensively from the plays of Ibsen, Charles Rann Kennedy, George Bernard Shaw, Israel Zangwill, Galsworthy, Middleton, and others who have built their plays upon some thesis of economic or social philosophy. Each pupil reads in this type at least one long play a week in addition to the other activities which are being carried on. Many of the significant plays of this type are made the subjects of individual reviews which are presented by the writers to the class. Studies are also made of the leading playwrights represented in this group, pointing out their chief interests, habitual attitudes of mind, and characteristics of craftsmanship.

Contemporary comedies of manners supply the subject for the third project. Shaw's *You Never Can Tell* is used as the specimen and is the source of much pleasure in that the boys and girls find themselves rather amusingly mirrored in Dolly and Phil and recognize aunts and big sisters in Mrs. Crandon and Gloria. For collateral reading in this project there is much of the work of Shaw, Arnold Bennett, J. M. Barrie, Oscar Wilde, Pinero, Rostand, Jones, and, of course, isolated pieces by a number of others. Turning naturally from the modern comedies of manners to those of the eighteenth century and still earlier, entertainment and profitable reading are found in Sheridan, Goldsmith, and Molière. Satirical elements in the comedies of Shakespeare are noted, and, for the sake of comparison, *The Birds* and *The Frogs* of Aristophanes are introduced.

In considering the tragedy of the Elizabethan period, *Macbeth* is used as the type specimen. Collateral reading includes other plays of Shakespeare, the work of Marlowe and Ben Jonson. Students of advanced French sometimes find it interesting to compare the English plays with the classic dramas of Corneille and Racine. The morality and the masque are treated very briefly, *Everyman* and *Comus* being introduced as type specimens.

The question is sometimes raised whether the subjects treated in many plays are not too sophisticated for the attention of high-school boys and girls. The answer prompted by experience is negative. Nothing of an objectionable nature is found in the plays which is not thrown before the public eye constantly in daily newspapers and cinema thrillers. The modern problems of society, whether in the field of economics, sociology, religion, or sex, are far more sanely, delicately, and honestly treated by an artist like Ibsen or Galsworthy than by the sensational newspaper or cinema film.

During the last week of the year the members of the class construct their own chronological survey of the drama, classifying the plays of each period of dramatic activity according to the types represented. Thus the content of the course, which might seem to be administered rather illogically as to arrangement—the result of an effort to sustain the interest of the pupils through the more obvious, though somewhat superficial, points of coherence—

receives at last a thoroughly consistent and unifying review, both as to time element and structural type.

The technique of presentation and treatment of this reading content of the course has already been suggested in the discussion of each project, but a summary may be found helpful. First in each unit is the instructor's interpretative reading of part or all of a specimen play. During the earlier part of the course, when the pupils have not yet developed facility in reading in the dramatic form and are unused as yet to visualizing the stage action while reading, this procedure is quite necessary. As the pupils gain in reading power, more and more of this interpretative work is intrusted to them, assignments being made sufficiently in advance to permit the player to become familiar with the character, the action, and the speeches of his part. This does not mean memorization. Interpretation by the instructor once more becomes necessary with the earlier English plays, due chiefly to the unfamiliarity of the pupils with the early diction and word-order.

Thus, it may be observed that the pupils gain through their reading a wide acquaintance with a considerable quantity of dramatic literature. This acquaintance grows easily and naturally out of the pupils' immediate interest and expands with growth in reading power and the development of more permanent life-interests. No course of reading could require less motivation or less driving activity on the part of the instructor.

The technique employed in the cultivation of power to appreciate is almost purely inductive, standards of taste being formulated by the pupils out of their reading, with the merely suggestive guidance of the instructor. The comments of the pupils upon the plays offered in the theaters of the city as the current season progresses give evidence of real growth in appreciative and critical power. Several have remarked upon their dissatisfaction with the usual cheap narrative or melodramatic material of the moving pictures since their acquaintance with the sounder, truer, and more robust drama.

Discussion of plays read or witnessed is either informal, after most of the pupils have become familiar with the play, or in the shape of a more formal oral or written report upon a play or author



assigned to or chosen by the individual. The collateral or extensive reading in each unit consists of from six to ten plays of a given type, with a simple card record of each and a more complete report on some one, so prepared that it may be presented before the class, if required. In this way each pupil becomes somewhat acquainted with all the available material of the type being considered, familiar with at least six plays, and thoroughly conversant with one or two. Early in the course the discussion is simple, confining itself to the type of the play, its interest for the reader, and the more obvious good literary or structural qualities. Later in the year a somewhat more elaborate form of study is worked out. The outline developed and employed the past year is here presented.

#### OUTLINE FOR STUDY AND REPORT ON PLAY

What forces are in conflict in this play? What characters represent these forces? State briefly in a sentence the plot or situation arising out of each conflict.

What situation existed antecedent to the first act? How is it revealed?

What is the opening situation? What incident starts the rising action?

What and where is the climax? What incident starts the falling action?

What is the catastrophe? How are these points of the plot related to the division of the play into acts?

Which of the major conflicting forces wins? Is the play technically tragic or comic?

What sort of atmosphere pervades the play? How is it created?

Do any scenes violate this atmosphere?

Which scenes are most stirring to the emotions? Why?

Has the play a didactic theme? What is it? Do you think it was so intended by the author, or may it merely be drawn by the reader?

What notable pronouncements of universal truth about life appear?

Are there any lines of epigrammatic or proverbial interest?

Is the play written in prose or verse? Is the conversation stilted or natural? Solid or sparkling?

Does the author mean to portray a "slice of life"? Wherein is the play realistic? Wherein is it romantic or fantastic?

Does the author insert stage direction or comment? To what extent? Why?

Are elements of universality of truth and of appeal to be found in character, situation, or lines?

There is ample evidence that pupils gain power to read drama effectively for themselves through the practice of acting parts in a

play. Much of the pleasure of play-reading and, indeed, of the power of critical evaluation, depends upon the reader's ability to visualize his reading as a stage production. By such exercise of imagination the reader sits before the footlights or even plays his parts back of them. In order to develop this visualizing power in the pupils, the classroom stage is utilized as much as possible in reading the type specimens. To gain a more complete experience, the class prepares during the year a number of short plays which are produced before audiences invited from the membership of the school. The members of last year's class quite generally testified that the experience of acting before an audience enhanced their appreciation, not only of the plays which they subsequently read, but also of those which they witnessed in the theater.

What may be called the creative or self-expressive values of the course are developed through critical and appreciative studies of plays and authors, projects in stagecraft, inquiries into the history and theory of drama, acting, and original play composition.

Some description has been given of the appreciative studies of plays which are prepared for oral presentation to the class or as project papers due upon the completion of a unit of work. The following list of subjects chosen at random from the papers of the past year may be of interest. The material of each of these papers is highly original, the result mainly of the pupil's own reading and thinking:

Rostand and Aristophanes, a comparative study; *Chantecler* as a modern bird satire compared with *The Birds* and *The Frogs*.

Shaw and Sheridan as Irish Satirists of British Life of Their Times.

*Happy-Go-Lucky* and *She Stoops to Conquer*; a modern farce-comedy compared with one of the eighteenth century.

Shaw, a Twentieth-Century Molière.

Analytical studies of *Macbeth*, *Hamlet*, *Othello*, and *Le Cid*.

Sven Lange's *Samson and Delilah* as a Modern Morality.

Modern Instances of Comedy Characters from Shakespeare.

English Morals and Manners as Satirized by Shaw.

Similar studies are prepared at suitable times in the fields of dramatic history and theory. Subjects which have been used are "Child Games with a Dramatic Element," "The Traditional Unities in Drama," "Moralities," and "David Garrick." Such

papers are, obviously, less original, having their basis in critical or historical material which the pupil searches out and reads. Members of the class also frequently supply the school daily paper with reviews of plays current in the Chicago theaters.

Projects in stagecraft afford the pupils interesting opportunities for the expression of their artistic ideas and the exercise of their personal ingenuity in planning and arranging settings for plays. Early in the past year two boys prepared a comparative study of the old and new points of view in stagecraft, illustrating their talk, which occupied an entire class period, by the use of the reflectoscope. Photographic book-plates showing early and more recent developments of stage art were thus brought before the class for discussion. One of the same boys later in the year devised a lighting arrangement for a difficult moonlight setting, improvising a simple device for varying the intensity of illumination. At all times during the past year the members of the class have had considerable practice in constructing scenery, the boys with hammer and saw, the girls with needles, paste brush, and paints. Out of such social constructive activity arises a feeling among the members of the class that the entire course is very much their own creation and possession.

Pupil-acting has already been discussed in its relation to appreciation. It is observed also that the pupils grow in personality and gain poise through the acting of play rôles. In order adequately to represent a character it is necessary that the pupil experience to some degree, even if but artificially, the emotional states portrayed. Acting offers an interesting experience in actually putting one's self in another person's place. Out of this experience it would be difficult to escape some growth in personality and breadth of sympathy. With the loss of self-consciousness and the practice of some degree of thoughtfulness in handling the human body during the rehearsals, there is notable gain by the pupils in ease and grace.

Finally, after becoming familiar with dramatic literature, the theory underlying its production, and the actual practice of stage representation, the pupils undertake the writing of original plays or the dramatization of suitable short stories. Of these, the plays which are adjudged by the class upon first reading to have the

best possibilities are given an actual tryout on the classroom stage and revised or reconstructed where that experience seems to suggest advantageous change.

The equipment of the drama laboratory is not elaborate. The classroom is about 27 by 23 feet, exclusive of the stage, and will seat about one hundred spectators. When in use as a classroom or study-room, its most notable features are an informal arrangement of arm chairs and ample table room to accommodate racks of reference books and furnish writing space for all the pupils. The stage, which is built into one end of the classroom, two steps raised above the floor level, measures twenty-five feet wide by thirteen feet deep, and the playing space with the interior set in place is twelve feet wide by ten feet deep. The tremendous handicap of a ceiling and painted skylight only eleven feet above the floor is partly overcome by covering the skylight to exclude all light and hanging curtains of blue denim of some twelve-inches depth at such intervals as to conceal the actual ceiling. These serve not so much to represent a real ceiling as to help frame the stage picture in a soft dark border. The stage curtain is of monks' cloth stippled with dark paints. An inner proscenium rectangle of dark blue denim serves, along with the ceiling drapes already mentioned, to frame the stage picture when the curtain is drawn. The present scenery equipment includes only an interior set composed of seven interchangeable screens of canvas, constructed in the school shops and calcimined in a suitable brown tone. It is expected that subsequent classes will undertake the development of drapery sets and further improvement of the equipment of the stage. Lighting is accomplished through two bunch lights with gelatine color slides to fit them, and isolated units of illumination placed wherever needed.

A liberal textbook and library equipment is essential to the success of a course in drama. An unusually complete collection is available in the library of the University High School, and the intelligent and enthusiastic co-operation of the librarian has been no small factor in making the reading portion of the course a success. A bibliography is here inserted, which is by no means a complete list of our working drama reserve, but which, it is hoped, may be suggestive to those seeking a nucleus for a similar collection.

## BIBLIOGRAPHY

*Books on Playmaking and Stagecraft*

- BAKER, GEORGE PIERCE. *Dramatic Technique*. Houghton Mifflin Co.  
 CHENEY, SHELDON. *The New Movement in the Theatre*. Mitchell Kennerly.  
 CLARK, BARRETT H. *How to Produce Amateur Plays*. Little, Brown & Co.  
 EATON, WALTER PRITCHARD. *Plays and Players*. Stewart & Kidd Co.  
 HAMILTON, CLAYTON. *Studies in Stagecraft*. Henry Holt & Co.

*Collections of Plays Useful as Textbooks or Library Material*

- BARRIE, JAMES M. *Echoes of the War*. Charles Scribner's Sons.  
 DICKINSON, THOMAS H. *Chief Contemporary Dramatists, Series 1, 2*. Houghton Mifflin Co.  
 DICKINSON, THOMAS H. *Wisconsin Plays, Series 1, 2*. B. W. Huebsch.  
 DIX, BEULAH MARIE. *Allison's Lad and Other Martial Interludes*. Henry Holt & Co.  
 ELIOT, SAMUEL H. *Little Theatre Classics*. Little, Brown & Co.  
 GREGORY, LADY ISABELLE AUGUSTA. *Seven Short Plays*. Maunsel & Co. (Dublin).  
 MACKAYE, PERCY. *Yankee Fantasies*. Duffield & Co.  
 MACMILLAN, MARY. *Short Plays*. Stewart & Kidd Co.  
 MATTHEWS, BRANDER. *Chief European Dramatists*. Houghton Mifflin Co.  
 MAYORGA, MARGARET G. *Representative One-Act Plays by American Authors*. Little, Brown & Co.  
 MOSES, MONTROSE J. *Representative British Dramas*. Little, Brown & Co.  
 SHAY, FRANK, and LOVING, PIERRE. *Fifty Contemporary One-Act Plays*. Stewart & Kidd Co.  
 WALKER, STEWART. *Portmanteau Plays*. Stewart & Kidd Co.  
 WALKER, STEWART. *More Portmanteau Plays*. Stewart & Kidd Co.  
 WILDE, PERCIVAL. *Confessional and Other One-Act Plays*. Henry Holt & Co.  
 YEATS, WILLIAM BUTLER. *Plays*. Macmillan Co.

Certain definite results seem, therefore, to have been attained through the drama course, administered under conditions of personnel and equipment which may be considered as in no way unusual. There is, first, an introduction to a valuable and unified content of literary material. There are also the cultivation and establishment of good taste and sound standards of judgment. Sane social attitudes are developed as counteractive to the influence of prevailing conditions. Finally, impetus is given to the growth of personality in the boys and girls through natural, spontaneous self-expression.

## FREE SECONDARY EDUCATION

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An article in the February, 1921, issue of the *School Review* on "The American Experiment of Free Higher Education" has interested me so greatly that I should like to contribute to the discussion of the question of free secondary education with a few words on our experience in South Africa in this direction. I may perhaps be permitted to say that we here follow your educational experiments with considerable attention. Your lack of uniformity in administration, organization, and instruction, your amazing energy and initiative, and your great national resources in population and material wealth seem to us to conspire to give you enormous advantages in the direction of educational leadership, and we eagerly follow all you are doing in the way of experimental and pioneering work.

The white population of the Union of South Africa is only 1,500,000, while the native and colored population—overwhelmingly uncivilized—is 5,670,000. Our population is spread over an area of 473,096 square miles, and our educational administration is divided into the water-tight compartments of the four provinces—Cape of Good Hope, Natal, Orange Free State, and the Transvaal, while our white school population of nearly 300,000 is divided into English-speaking and Dutch-speaking. Furthermore, it is only nineteen years since the close of a destructive war completely wrecked the educational organizations of the Orange Free State and the Transvaal. Nevertheless, the school population of the Transvaal has risen from 24,900 to 103,000 in that time. Financially, reconstruction was made possible by the presence in the Transvaal of the wealthy gold-mining industry and a well-paid white industrial population of some 230,000. All this is by way of introduction.

In 1914 a short-lived labor majority in the Transvaal Provincial Legislature introduced free primary and secondary education. At that time primary education cost the Province £505,283

and secondary education, £34,852, while secondary-school fees brought in a revenue of £20,000. The primary-school enrolment was 60,119, and that in the secondary schools was 2,335. By 1919 (the latest year for which figures are available) education cost the Province £2,318,000, and the total enrolments of the primary and secondary schools are 96,174 and 6,168, respectively. It will be noticed that the enrolment in secondary schools in 1914 was 3.9 per cent of the total enrolment; in 1919 the percentage was 6.4. It will be seen, too, that despite war conditions and the fact that it usually takes parents years to realize the value of extended educational facilities, the enrolment in secondary schools has more than doubled in six years.

General Smuts's Cabinet has recently announced that the country's financial position is somewhat serious. There is a national debt of £27,000,000, and heavy taxation has become necessary. The provinces have been told that the Union Parliament's subsidies to the provinces have been very considerably curtailed, and the provinces are threatening to reduce the expenditure on education. To meet the situation in the Transvaal many are urging that school fees should be reimposed in the secondary schools, since, they say, the cost of education is too much for our resources. In the Cape of Good Hope free primary education was introduced only last year, and it will be interesting to see whether that province will go back on its policy.

It is well for educationists to face the issues involved, even as Dr. Judd urges in the article referred to. There is certainly a reactionary ebb in the educational tide, and men and women are beginning to ask if it is really necessary to make sacrifices for the sake of education. This attitude is to be found mostly in the professional and wealthy classes, and is exemplified by the remarks made to me a few days ago by a Transvaal legislator, a professional man, "What is the advantage of education to my child now that the children of the laboring classes have the same facilities? There is not the same market value for education now." Undoubtedly, a great deal of this demand for the reimposition of fees derives its force from this fear of competition, a considerable amount of snobbishness, and a fear of increased taxation.



Yet, Dr. Judd is right when he says that with you, as it is with us, free secondary education is an experiment, and still needs careful re-examination. What does democracy mean when it asks for the fullest educational advantages for all? Have we tried hard enough to meet the varieties of the educational needs of democracy? It is true that we here also have differentiated in some degree by opening up commercial high schools, trade high schools, technical high schools, and domestic science high schools, in addition to the ordinary academic high school. But there is something wrong when 60 per cent of those who enter our high schools leave after only two or three years. The curriculum is arranged to meet the needs of those who proceed to the High-School Leaving Certificate or University Matriculation Certificate, so that we are neglecting the special needs of the 60 per cent who leave at an anterior stage.

The opponents of free secondary education complain of this wastage and use it as an argument to prove that the high school is not appreciated, forgetting that it is to some degree advantageous that pupils should stay even one year beyond the primary-school stage, which is usually completed at fourteen years of age. What is needed here, at any rate, is a more careful sorting out of the pupils according to their intellectual bias at the end of the primary stage, whether they are the children of rich or poor parents. Many a child of wealthy parents would have profited by vocational secondary training instead of the academic instruction which his parents' snobbery insisted he should follow.

I was much interested in Dr. Judd's proposals for the orientation of educational values among parents and scholars. Far too little emphasis has been placed upon the fact that a man's attitude toward social and political ideas has usually been determined during his school days—if not at school, then in the home atmosphere. It is imperative that the school atmosphere should cultivate the right ideals and that these ideals should be based upon definite and concrete ideas.

## TEACHING A STUDY-HABIT. II

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The indirect method of teaching a study-habit need not be illustrated as fully as the direct method was in Part I of this article. It is used much more than the direct method. It should not be confused with the incidental method, or lack of method, of teaching study-habits. The indirect method is distinguished from the incidental by the fact that the teacher makes definite, systematic plans for giving pupils practice enough in a method of study to lead to its habituation; it is distinguished from the direct method by the fact that the teacher does not get the pupil *consciously* to strive to make the method of study a study-habit.

How may a supervisor know from classroom observations alone whether teachers are efficient in getting their pupils to develop economical study-habits? How may he know whether they are using the direct or the indirect method? It will be very obvious to the classroom observer if the direct method is being used. There will be specific reference to study-habits, both in assignment and in recitation; fairly specific tests of whether pupils *can* use and *do habitually* use certain methods; and specific drills in which the attention of all the pupils is on the improvement and habituation of a clearly defined method; and the advantages of certain methods of study over others will be pointed out and sometimes demonstrated by informal experiments. One may not so easily be assured that the teacher is using the indirect method as contrasted with the incidental plan.

In order that classroom observers may decide how well study-habits are being taught and the teachers may use the indirect method effectively, there must be a thorough understanding of the relation between the teachers' methods—in both assignment and recitation—and the study-habits which they may influence. This may be illustrated by a further discussion of teaching the habit of

making mental cross-connections, considering it now from the standpoint of the indirect method.

In making plans to teach this habit by the indirect method, the teacher must study the possibilities of using the assignments and recitations to that end. In announcing the advance topic, she may give it a rich setting in the child's experience; she may ask study questions which will insure that pupils will be looking for similar cases and relationships. In regular recitation periods she may introduce correlated facts not easily accessible to the pupils in reference books, or she may ask class questions that will require pupils to recall related facts.

To secure better balance in training the teacher will differentiate between types of cross-connections and be sure that pupils are given examples of, and practice in making, all types. It is to be remembered, however, that the pupil is not conscious of this differentiation. The facts in today's lesson will be correlated by the teacher's statements and the answers to her questions with (1) earlier material in the same course, (2) material in other subjects,—such as history with geography, English with history, one science with another—or (3) everyday affairs (experience and other reading). These types may in turn be subdivided into (a) past and (b) future cross-connections.

Footnotes and citations in the context may either refer pupils to new related material or remind them of known facts that they should associate with given points under consideration. Teachers may make the best use of footnotes and citations to develop in pupils the habit of making more mental cross-connections for themselves in their reading outside of textbooks.

For a second illustration we may consider teaching the habit of varying the rate of reading, a phase of evaluation. Many pupils treat everything on a dead level—putting as much time on trivial as on important matters in their textbook reading. There is often considerable waste in time and effort when the assignment is a single reference, and usually more when several references are used.

In the latter case the teacher usually wants the pupil to supplement the notion of the topic that is gained from the first reference

by additional points from a second and a third reference. In such cases the pupil usually reads each reference as if he were responsible for giving a faithful account of what it includes. This is usually not desirable with younger pupils. A great deal of time is thus wasted by not sketching the second and third references to get points to supplement the first reference.

If a teacher never makes the comment in a recitation that one thing is more important or less important than another, if there are no questions requiring pupils to make evaluations, and if she never indicates emphasis in making assignments or specifically indicates certain parts of the material that may be read more rapidly and certain parts that should be read more carefully, *how* can we expect pupils to form the habit of varying their rate of reading or to be able to judge when they may profitably do so? Many college students testify that their teachers gave them the impression that any study that was less than complete mastery of material was not academically respectable.

For a third illustration we will take teaching the habit of raising questions during study, emphasizing one phase that has not been covered in the other illustrations. The teachers who have used the indirect method most effectively in teaching this habit have studied their practices in making assignments and conducting recitations, since these may affect the pupils' habit adversely as well as favorably. They start with the question, "How can I get pupils habitually to raise more significant questions?" They know that younger children ask a great many questions when they come in contact with a new experience, and so the logical thing is to ask *why* school children do not ask more questions when they meet new ideas in the reading material of their courses. This question brings them to a clearer realization (1) that pupils commonly think it is a sign of weakness or lack of preparation to ask the teacher a question in class about something connected with the lesson, (2) that some of their fellow-teachers actually discourage pupils from asking questions, (3) that other teachers merely tolerate pupils' significant questions in class but do not really satisfy their desire for information, (4) that few teachers give pupils as much credit for understanding when they ask a significant question as when they

answer a question (even when they give credit they do not always make the pupils realize it).

The foregoing illustrations will serve to bring out at least three important advantages of the indirect method over the incidental method of teaching a study-habit. The teacher who makes systematic plans indirectly to promote the development of a study-habit will be more likely to make a better choice and give a better balance to the features to be used in assignment and recitation. If the matter is left entirely to chance, only certain types of cross-connections will be introduced, or some of the most important forms of practice in the habit may be neglected. In the second place, it is not so much the use of the features as it is the intelligent use of them. A teacher may ask pupils very significant questions about the central thought, the purpose of a given arrangement, and the value of a certain incident in a literary selection without realizing the full possibilities of such questions. They are not merely the means of testing the pupils' understanding of the selection; they may be the means of starting pupils in the habit of raising similar questions in their later independent reading when they want to get a better understanding of a selection. When a teacher uses study questions, indicated emphasis, correlation of facts, or any other assignment or recitation feature without a full appreciation of how these features may influence some study-habit, the chances are that she will not teach the habit as well as if she did see such relationships. The third advantage was pointed out in connection with the third illustration. Systematic planning will lead to discovery of practices and conditions that are adverse to the formation of the habit and, therefore, to better-chosen methods to remedy or neutralize them.

Both the indirect and the direct methods of teaching a study-habit follow very closely our current practices in teaching other types of habits. It will give further emphasis to the point of view of this article if we differentiate the types of habits that students are expected to acquire in connection with given school subjects and then make some comparisons between methods of teaching study-habits and other types of habits.

One set of habits pertains to just one school subject. These habits are an integral part of the subject, and pupils must learn them in order to master the subject. They are most common in subjects that are predominantly habit-forming, such as arithmetic, writing, and beginning reading. They may be illustrated by the mastery of the various combinations in arithmetic, using the law of signs in algebra, and calling certain visual symbols by the conventional word names in reading. In these subjects certain habits are so much a part of the subject that many people do not think of them as elementary habits within a larger complex. Experimental educational psychology has revealed some such habits which had never been considered in teaching the subject. The character of eye-movements in reading is a case in point.

The study-habits such as we have under discussion constitute a second type of habit to be acquired in connection with a school subject. These may be divided into (*a*) those limited to a certain subject and (*b*) those more general in character. An illustration of the former is the method employed in adding a two-place column of figures—by single or double columns, by grouping, or by adding each successive number in each column. The more general type of study-habit is exemplified in the three habits mentioned in illustrating the indirect method.

Thirdly, there are habits that should be stimulated and controlled in their formation by the information given in a course. We have our most familiar illustrations of this type in such subjects as physiology and civics. One should want to bathe regularly and should have a better understanding of when and how to bathe as a result of a knowledge of certain physiological facts. In the last few years teachers have been choosing and emphasizing facts and the methods for teaching them more with reference to the teaching of certain habits than they have ever done before. Specific objectives in the form of certain habits have been set up, and there has come the realization that the best way to attain the aims that involve habits of this type is to plan more specifically and systematically for the formation of these habits. If a teacher wants pupils to form the habit of caring for their teeth, she may make

care of the teeth a daily exercise, or she may take pains to connect the physiological facts bearing on the structure and function of teeth with the means of caring for the teeth so as to induce habits in that direction.

*Teaching habits of the first type.*—In teaching English composition we teach a number of simple and complex habits of the first type mentioned. We do not expect a pupil to develop all of these habits simultaneously; nor do we expect him to develop them by chance. We take up and explain relatively few things at a time. The pupils are then drilled in the use of these particular features, most of the teacher's suggestions being limited to the correction of mistakes in them. If the drill work is on sentence structure or particular grammatical forms, comparatively little criticism is made on matters pertaining to paragraph unity. Most criticism on that point must be left until habits in connection with paragraphing are taken up.

A large part of instruction consists in breaking bad habits of usage, but there is no wholesale attempt to break all bad habits simultaneously. The best teachers take pains to discover the most common faulty habits in their classes; then a few of the worst or most common are selected for special drill work. The pupils' attention is concentrated on the correct forms until these become automatic, and then attention is free to correct another group of selected faults.

In mathematics we have found that concentrated effort gives the best results. If a pupil has the habit of inaccuracy in making certain combinations or has not fully habituated the law of signs, his work will be affected materially. If these particular weaknesses can be located, a few weeks' drill on them will improve the general quality of the pupil's work in mathematics more than months of general practice. On the constructive side, we do not try to teach a great many mathematical processes (as habits) at one time. We make one or two simple processes automatic; then a more complex process is mastered; and so a hierarchy of habits is built up. But attention is concerned only with the new element each time; the other elements are on a habit basis.

*Comparisons.*—Instruction in English composition is concerned with training in habits of expressing thoughts; teaching pupils



"how to study" consists in teaching them habits of getting thoughts and of fixing them in mind. The process of getting thought from the printed page is alone as complex as the process of expressing thought. We teach pupils the habits involved in the latter systematically, with emphasis on relatively few habits at a time and with more emphasis on the manner of expression (method) than on the accuracy or adequacy of facts given (content).

Who would seriously advocate changing from systematic to purely incidental training in written composition? Our courses in that field have reached a high stage of development, and the tendency is toward a more systematic form of training in oral composition. If we should teach the habits of expressing thought on the same assumption that most of us have taught habits of getting thought, we would completely do away with separate courses in composition. This article does not by any means advocate the converse—organizing a separate course in "How to Study." But it may make the contrast in present practices stand out more clearly if we consider a few of the advantages of such a course.

If we had a separate course in "How to Study," the teaching of important study-habits would not be left to chance. They would be included just as carefully as we now include all important habits of writing and speaking in our composition courses. In the second place, there would certainly be a more careful grading of study-habits for teaching purposes than we now have. There would be more thought as to what time in the course and in what connections a given habit should be taught. Thirdly, by having a more inclusive list of habits and a place in the course for teaching each, there would be more specific and consecutive drill on a habit than at present. And fourthly, there would be much more testing of pupils in study-habits, for teachers would have to test and measure improvement in study-habits if the primary aim of the course were teaching study-habits. How can any teacher confidently claim that she is teaching study-habits efficiently at the same time that she is teaching subject-matter in her course in history, science, or English, if she does not give some time to selecting carefully the study-habits she intends to teach, deciding in what order and under what circumstances to teach them, drilling pupils

in them, and finally testing pupils in them? By planning what she would include and how she would teach such a course, any teacher will be likely to find opportunities to include more emphasis on study-habits in her regular work.

We may go to the field of mathematics for some further comparisons. Here the distinction between the first and the second types of habits is not easily made. The habit of making a mental summary of what is given and what is to be found is left to chance in arithmetic by many teachers. This habit is such an integral part of the statement of any demonstration in geometry that probably most students consider it a part of geometry rather than a method which is valuable in other connections. In fact, many students testify that this habit learned so well in geometry never became a habit of procedure with arithmetic problems. This suggests a very great advantage of the direct method over the indirect method of teaching a study-habit. By consciously habituating the method as a method, it is much more likely to be used in other connections.<sup>1</sup>

If we really want pupils to form the habit of breaking up problems—asking, “What will I have to know before I can find the required answer”—it would seem that we should call their attention to the habit and give them practice in it in much the same way that we teach them to invert the divisor and multiply in division of fractions, or to change signs when they transpose in algebra. We may want pupils to form the habit of getting and holding in mind the conditions of the problem expressed in general terms—to avoid the extra effort and confusion resulting from holding involved verbal statements and long numbers in mind. Other things being equal, the pupil who strips his problem to the essentials can plan his solution much better than the pupil who tries to hold too much in mind. Many pupils will not form this habit unless it is specifically taught.

Our conventional claims for teaching secondary mathematics include the development of certain more general mental habits.

<sup>1</sup> Those who are familiar with the most commonly accepted current theory of transfer of training will see that the direct method of teaching study-habits is consistent with it. In fact, the direct method with its conscious generalization of method is the best way to secure transfer of training in learning how to study.

If these develop at all, they develop as study-habits first. If a mathematics teacher is going to train her pupils in the habit of developing principles and rules inductively, she must plan her work with reference to teaching the use of the inductive method in mathematics. With all the opportunity for training in habits of generalization in algebra, the average pupil gets much less than he should because many teachers use the incidental method to teach these habits, though they teach very systematically such processes as manipulation of equations and use of signs.

In both of these subjects where habits of the first type play such a large part, both recitations and examinations have been largely for the purpose of measuring the pupils' progress in these habits. So the reasons for testing pupils' progress in these habits are in general the same as the reasons for examinations. The more outstanding of these are (1) to give the teacher a chance to find out which pupils, and to what extent all of the class, are learning what they are expected to learn; (2) to give the pupil a gauge of his attainment—if it is poor, to make him see the need for improvement; if it is good, to give the satisfaction that has been shown experimentally to react favorably and result in further improvement.

Separate informal tests of particular methods of study were discussed in Part I. Then emphasis was put on the value of making the pupil realize his weakness in a particular method of study. This is one step in the direct method. Tests for the same purpose are commonly given in particular habits in composition and mathematics.

There is a further possibility of asking direct examination questions that bear on habits. The question "What was the author's aim?" or "What analogy will help the reader understand a certain discussion better?" may convince the student more certainly than his answer will convince the teacher that he did not think of that when he read the passage. A question that implies that the pupil should have studied in a certain way and makes him realize that he did not do so has accomplished one of the most important purposes of questioning. It has made the pupil realize one of his weaknesses in methods of study. If the pupil has been shown the value of a

certain method and is really trying to habituate it, it is more important for the pupil to come to a self-realization of the fact that he is not using it well than for the teacher alone to be aware of that fact.

But for the most part, quizzes and examinations will only indirectly test the pupil's use of certain study-habits. When the teacher makes out a list of questions, she will have in mind that she wants to determine how well pupils have been using certain study-habits, as well as to test their knowledge of the subject-matter. When she has this in mind, she will be much more likely to frame questions in such a way as to find it revealed by the pupil's answers on subject-matter. No single answer will be adequate proof of the way the pupil has used the method, but the cumulative evidence from several questions carefully designed to throw light on the use of a given study-habit may be very reliable.

If teachers are using the indirect method of teaching study-habits, they will necessarily have to put relatively greater reliance on indirect tests of pupils' use of method and lay further plans in accordance with the results obtained. Two very great advantages of the direct method of teaching should be mentioned at this point. First, the teacher may get the pupils to see that poor results in the quiz may usually be traced to poor methods of study—if sufficient time has been put upon the work. Pupils must be led to see the connection between particular mistakes on examination and the contributing causes in terms of poor study-habits. Secondly, since the pupil is trying consciously to form the habit, he will learn to determine what his study weaknesses are.

Are pupils now made as much aware of their weaknesses in methods of study (mental habits) as of their weaknesses in subject-matter? Since improvement depends so largely on such recognition, there must be better ways of bringing it about. The pole-vaulter who fails knows that he knocked off the bar; the football player knows when he misses a tackle. They do not need to be told that they failed; they want to know *why* they failed, what the difference is between their technique and that of the ones who succeed. Is it enough for a pupil to know that he failed in the third problem, left out an important point in his answer on the Ashburton Treaty, or used the wrong construction in translating a word? Are we as

teachers entirely satisfied if he can solve that problem later after seeing the correct solution, remember the point which he omitted, or give the correct construction of that word the next time? If we want those who made mistakes to profit by them and avoid similar mistakes in the future, they must be led to consider the poor study-habits that are probably responsible for them.

There is evidence that teachers are not making very great use of mistakes in subject-matter to call pupils' attention to the poor habits of study responsible for them. A question bearing on this point was asked of three sections of summer-school students—a total of 196. Their answers to this particular question ought to be at least typical, since they were all enrolled in a course in "supervised study." They were practically all experienced teachers; about half of them were doing graduate work. The instructor in the course directed their attention to some common practices in connection with returning written quiz and examination papers to pupils. Three practices with which all were familiar were mentioned: (1) simply putting a mark on the paper, indicating its merit; (2) indicating points at which some mistake has been made; and (3) making actual corrections of the mistakes. After these ways and combinations of them had been briefly discussed the classes were asked the following question: "In addition to these three ways and the possible combinations of them, what are some of the other ways by which teachers may use returned quiz papers to make pupils realize more clearly their weaknesses?" The particular purpose of the question was to determine whether teachers think of "weaknesses" in terms of poor *methods* as well as of poor *results*. It is also an illustration of a question indirectly testing habits, since it indirectly tests the teachers' habits in marking quiz papers. Everyone gave some suggestions; some gave as many as five or six. Only 36 per cent of the 196 teachers gave a suggestion that involved trying to get the pupil to see what *faulty methods* were responsible for the mistakes or failure shown on the paper.

It would be interesting for us to know what percentage of our pupils think, when corrected quiz papers are about to be returned and discussed, "Now I'll find out what was wrong with my

answers," and what percentage think "I'll find out *what* was wrong with my answers and *why* I didn't do better."

The suggestions growing out of a comparison of teaching and testing study-habits with other habits in English composition and mathematics may make some teachers feel that both the indirect and direct method will take too much of the teacher's time.

It is not within the scope of this article to elaborate the reasons for teaching study-habits. It is primarily concerned with the technique of such teaching. But if proposals are to gain acceptance, they must seem practical to the classroom teacher. We may carry our analogy one step farther to meet the possible objection of the teacher who strongly believes that the development of good mental habits and initiative in new situations is important in education, but who thinks the plans proposed here will take too much of the teacher's time. It would appall any teacher to think of teaching a boy all of the mathematics that a civil engineer has to learn if she did not remember that the course is distributed over a period of years with emphasis on only a relatively few things at one time. Think of the work involved in making a good journalist or finished platform speaker! We are willing to undertake these tasks when we have a systematic plan for them.

When we talk about the values of a high-school training, we almost invariably put more emphasis on the abilities that will be developed than on the information that will be acquired. In fact, there is a pretty clear realization that mere information will be comparatively useless unless people are trained in ways of using it. In the twelve years of school life before graduation from high school, especially when the direct method can be used advantageously in the last six years, we ought to find time to effect greater changes in mental habits and abilities.

*Changing technique.*—In considering the plan from as many angles as possible, we must not omit the teaching problems that are introduced when *changes* in study-habits are required. Most teachers recognize the fact that it is more difficult to make bad habits into good ones than to teach the correct form of habit in the beginning. In the junior and senior high schools pupils have many

bad habits of study. The teacher's task is complicated by the problems involved in breaking these habits. Some pupils may lack entirely certain habits of reflective study—they may fail to find the author's aim, to get the plan of organization, to notice the basis of statements, to raise further questions, etc.—or they may have the habit of overlooking some condition that is most favorable to study. Some will try to use good methods but will have formed the habit of using them in an awkward way. Others will be taking unnecessary steps in study. The teacher of any subject will find these types of faulty study.

There are certain discouragements that may come to pupils when changing their technique of study. Pupils expect to meet these in types of motor-learning that involve habit-breaking much more than they do in the case of study-habits. A track athlete expects to have a temporary loss in accomplishment when he tries to change his form in vaulting or jumping. The girl who is learning to play the piano knows that she will quickly become fatigued when practicing to correct some bad habit of position. The crux of the whole matter in changing technique is keeping the attention on the process. Attention gradually dropped out when the faulty method became habitual. Now a change makes an extreme demand on attention lest the old incorrect habit assert itself. This accounts for the possible temporary falling off in accomplishment and the earlier fatigue. Yet in spite of these and other discouragements, children will work quite faithfully if they are convinced that the new way will enable them in the long run to accomplish much more than they ever could have done by the old way. They know that they will finally be using the better habits just as unconsciously and smoothly as they once used the bad habits, and with much better results.

It will be a simple but significant service to point out some simple analogies to the pupils. The more fully teachers understand the causes of pupils' discouragement in the many changes in study-habits required, the more reasons they will see for pointing out the advantages of the method suggested. If pupils think of changes in study-habits as similar to changes in motor-habits and are fortified



by a clear understanding of the advantages of the new way over the old way, they will be much more likely to continue their efforts until the new way is learned.

There is justification for mentioning the foregoing points, though they seem so very obvious. The writer has asked several groups of teachers and prospective teachers the direct question, "What are the most common causes of discouragement to the learner in changing technique?" The question was not asked in a detached way, but after there had been some thought and discussion on the problems involved in changing technique. The following data are given for one group of forty-eight teachers. The idea of temporary loss in accomplishment was given as a cause by thirteen (27 per cent); "earlier fatigue" was mentioned by seven (15 per cent); only five (10 per cent) used the word "attention" in stating their reasons. Many were content with vague statements about neurones and nerve paths, or with such an unanalyzed answer as "it is hard to do," or "one lapses into the old way." If we look for causes with a view to removing them, obviously we must state causes in terms that will suggest the means of doing so.

If we do not know what study-habits our pupils have, we may be requiring them to change their method of study by certain specific directions in a given lesson. If we hold them responsible for using a given method, and it is a new method, we should not require them to cover the same amount of ground in subject-matter. But we must remember this: *After we teach a few study-habits well, pupils can give some attention to forming another, new study-habit and still master as long a lesson as the pupils whose study-habits are the result of chance.* Many teachers overlook this fact when they say that the demands on them are such that they dare not neglect subject-matter to put more time on teaching pupils how to learn.

This article as a whole has considered some differentiations that may help clarify thinking in the fields of supervised and directed study. The indirect and direct methods of teaching study-habits have been illustrated. Different phases of method have been illustrated from the teaching of different study-habits. Comparisons have been made between methods of teaching and testing in the field of other habits and our practices in teaching study-

habits. These comparisons were made for habit-breaking (changing technique) as well as for original habit formation.

We may now summarize the advantages of the direct and indirect methods of teaching a study-habit as contrasted with the incidental way which relies on chance rather than systematic training. (1) A more balanced emphasis on important study-habits is insured. (2) Difficulties in learning are broken up—relatively few things are attempted at one time—therefore the task for pupils becomes more definite and it is easier for pupils to note progress. (3) Pupils are enabled to differentiate much more clearly between more and less effective methods by having them clearly pointed out. (4) The realization of the advantages helps tide over the period of temporary discouragement in changing technique. (5) Teachers can and will test progress in the formation of study-habits more than they have in the past. (6) There is the possibility of definitely and directly connecting failure in results in subject-matter with poor methods of study. (7) Realization of their own weaknesses through direct tests of method influences pupils to want to improve and shows them where to expend effort to secure improvement. (8) Pupils have a chance to assume more responsibility for their own progress in the course. (9) There is likely to be better co-operation between pupil and teacher, since the pupil will have a better appreciation of the teacher's reasons for certain requirements. (10) Pupils will take a greater interest in their work. (11) There will be a better chance for the teacher to take individual differences into consideration and give drills in specific methods of work, just as we now differentiate drill in different phases of subject-matter. (12) Pupils get the idea of differences in method and receive some training in generalizing and choosing methods. (13) Habit will be more general if the pupil is made more conscious of the purpose and value of the habit.

## CARING FOR HIGHLY ENDOWED PUPILS

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Modern differential psychology is rapidly finding important applications in practical school work. It is an indispensable means in the adjustment of work to individual needs, and it is disclosing important facts regarding the degree of intelligence essential to success in school work at various stages of progress in the educational system. One purpose for which it has not yet come into extensive use is the discovery of capacity which may now be going to waste.

It is reported that German cities are beginning to seek out the well-endowed children graduating from the *Volksschule* to give them special school opportunities and to encourage them to continue their studies, even to the point of subsidizing their parents when necessary. The study upon which this report is based was undertaken with a view to outlining a procedure that might be serviceable in the determination of the extent to which highly endowed pupils in America are being overlooked by the educational agencies of the community.

The school department of the city of Oakland, California, by means of counselors and special adjustments of the curricula to the needs of school children, is making a determined effort to improve what the superintendent refers to as the "holding power" of the schools. The proportion of children of this city who go on to high school after the completion of the eighth grade in response to these efforts is amazing. Apparently it is better than 95 per cent.

In the course of these efforts two types of data were secured which served as a basis of this study. (1) Every child completing the upper half of the eighth grade in the entire system was asked whether or not he was going on to high school. In the case of children who reported that they were not going on, a statement of the child's reason for stopping his work was secured by the counselor and forwarded to the central office. (2) The Terman Group Test

was given to all of the children in the upper half of the eighth grade with the object, among others, of sending the data on to the high-school principals to facilitate their guidance of the entering classes.

The number of children tested in the class leaving the eighth grade last January was 1,173. The data are incomplete to the extent that the children absent on the day the test was given are necessarily omitted. The writer secured from the central office the written reports of the counselors regarding children not intending to continue their school work. There were in all only fifty-five reports, although the class probably numbered more than twelve hundred children. The reasons assigned for not entering high school are shown for these fifty-five pupils in Table I.

TABLE I  
REASONS FOR FAILURE OF FIFTY-FIVE EIGHTH-GRADE  
GRADUATES TO ENTER HIGH SCHOOL

Leaving town.....	8
Obviously not high-school types.....	4
Obvious physical or mental defects.....	12
Probably economic pressure.....	31
Total.....	55

Of the thirty-one cases indicating the presence of economic pressure as the cause of not going on to high school, it was found that seven had been absent on the day the group test was given, so

TABLE II  
SCORES OF TWENTY-FOUR EIGHTH-GRADE PUPILS ON THE TERMAN GROUP TEST

Pupil	Score	Age	Pupil	Score	Age	Pupil	Score	Age
1.....	148	16	9.....	83	16	17.....	51	15
2.....	146	15	10.....	81	15	18.....	49	16
3.....	142	13	11.....	73	15	19.....	45	15
4.....	138	15	12.....	67	15	20.....	44	16
5.....	124	15	13.....	62	16	21.....	41	15
6.....	106	15	14.....	61	16	22.....	40	15
7.....	94	17	15.....	56	13	23.....	33	15
8.....	84	15	16.....	56	16	24.....	29	16

that there were only twenty-four cases regarding whose intelligence status information was available. These twenty-four pupils secured scores on the Terman Group Test as shown in Table II.

As a basis of interpretation of the scores of these twenty-four pupils, an evaluation of the Terman scores was made by the Bureau of Research and Guidance of the Oakland schools on the basis of the total number of children tested. This classification of the test scores in terms of grade marks and ratings as made by this bureau is as follows:

- 155 or better = A or best 5 per cent—very superior
- 125-154 = B or next 10 per cent—superior
- 100-124 = C+ or next 20 per cent—above average
- 80-99 = C or next 30 per cent—average
- 60-79 = C- or next 20 per cent—below average
- 45-59 = D or next 10 per cent—inferior
- 0-44 = E or lowest 5 per cent—very inferior

The general median for the children tested was 91. Individual schools varied in median from 110 to 61.5. While the number of children with which this study deals is not sufficient to warrant general deductions, it is nevertheless interesting to note that the median for the group apparently being kept from high school by economic pressure was very low. Indeed, it was far below the general median, and very nearly as low as the poorest individual school. These data perhaps again emphasize the relation between native endowment and social status. It will be noted that the group of twenty-four contained no child ranking within the first 5 per cent of the entire eighth-grade group and that just one-sixth of the group made scores entitling them to rank in the first 15 per cent of all the children tested. Since we were interested in children so highly endowed that their failure to go on to high school would represent a definite social waste, it was determined that personal inquiries should be limited to such children as made a score entitling them to the classification "superior." Only two additional children would have been included in this personal investigation if the "above average" group had been taken also. In view of the fact that these two pupils were overage, as well as the fact that this plan would make the group comprise 35 per cent of all those included in the distribution, the procedure did not seem to be warranted.

Proceeding on the theory that the group test is merely diagnostic and that a small difference in score within a given class may not be

as significant as a difference of from one to three years in age, the first four cases were reranked as shown in Table III.

A personal investigation was made of the cases of these four children and certain significant facts determined: Case No. 2 (original number) had not been considered particularly bright in school and was having home difficulties. Case No. 4 (original number) was not considered unusually gifted in school, had moved, and could not be located. Case No. 1 (original number) had home difficulties.

Binet intelligence quotients were not available for these three children, but no unusual information was secured regarding any of

TABLE III  
RANK, ON THE BASIS OF AGE, OF FOUR PUPILS MAKING HIGHEST  
SCORES ON TERMAN GROUP TEST

Original Number	New Number	Score	Age
3.....	1	142	13
2.....	2	146	15
4.....	3	138	15
1.....	4	148	16

them that would indicate a great social loss due to their failure to attend high school. This feeling was confirmed by two lines of reasoning; it may be taken for granted that an unusually well-endowed child will ordinarily not be overage at the time of entering high school; furthermore, it may be assumed that the fact of age is an influence in securing a high score in the group test, so that the actual intelligence status is less favorable than may appear from the raw score.

Regarding Case No. 3 (original number), the only child of the twenty-four about whom the prediction may safely have been made that definite social wastage was represented, investigation disclosed the fact that at the last moment the counselor of her school was able to find a family with whom she might live in return for services rendered before and after school hours. This child, therefore, entered high school after all.

The report covering Case No. 3 included a statement from her and the counselor's comment:

I may go to high school. I want to go very bad, but last night my mother did not know whether I was going or not because my father is dead, and my mother has not very much to get on with, and there are six children in the family. I am the oldest.

A very deserving Italian child. Mother's Club looking after the case.

In order to check the prognosis that had been made on the basis of the group test, this child was given the Stanford-Binet Test at the age of 14.3 years, her score indicating a mental age of 16.4 and an I.Q. of 115.

It may be taken for granted that the situation found in the city of Oakland may not be regarded as typical of the country at large. When the entire country can show results approximating those of Oakland, we will approach the close of the period of rapid increase in attendance in high schools and settle down again to a new "normal" situation from that point of view.

Even though it is clear that in the city of Oakland very little educable material is being wasted, it is a fair question to ask whether a society as wealthy as ours ought to allow Case No. 3 to face at her age an economic struggle which, even if it does not prevent further school training, will surely deprive her of opportunities for the mental and social development of which she is capable.

While Case No. 3 has been most fortunate in the opportunity which she has secured to go through high school, the conditions under which she must work are at least discouraging. Her household duties engage her full time before school in the morning and after school until eight o'clock in the evening, when she goes to her room and studies until ten. On Saturday she is occupied practically all day with general house cleaning. Sunday she is free at four o'clock and goes home to spend the rest of the afternoon and evening with her people.

In school she is carrying four subjects: English, mathematics, history, and sewing, and is getting on well in all but mathematics. She is in danger of failing in that subject—a quite new experience to her, as her grades in the elementary school were always high.



When asked about the effectiveness of her evening study, she replied that she became very sleepy, because prior to coming to her present work she had been in the habit of going to bed at half-past eight. Since she stated that she prepares her history lesson first in the evening because she likes it best, it may be that her failure in mathematics is due to the fact that she is physically and mentally fatigued by the time she begins to study that subject.

Along with her high-school work and her duties in connection with earning her living, Case No. 3 is carrying a great deal of home worry. Her mother cannot go to work as she has many children to look after. Her father is dead, and her uncle who has been supporting her family is ill. Her brothers and sisters ought to be helped to go through school, and she realizes that the moment she has finished her own course it will be necessary for her to begin to assist them.

In view of the fact that the median score for the children entering the Oakland high schools in January, 1921, was 91, and Case No. 3's score was 142, a difference that is greater than the figures indicate because of the fact that she probably was below the average in chronological age, does it seem fair to subject her to the economic struggle described? Is the time approaching in America, as it has evidently arrived in some parts of Germany, when funds will be available to support the highly endowed children of economically incompetent parents through their years of schooling?

## GENERAL INTELLIGENCE, MACHINE SHOP WORK, AND EDUCATIONAL GUIDANCE IN THE JUNIOR HIGH SCHOOL

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We may properly assume that recent experiments have established the existence of significantly high correlation between general intelligence, as determined by mental tests, and ability to do the required academic work in our public schools. Can such correspondence be shown to exist between general intelligence and progress in learning to do specific kinds of shop work? In other words, is the boy of low intelligence as much of a misfit in our shop courses as he is in the academic curricula? The question has very great significance if we believe with certain authorities, first, that the largest part of approximately one-third of our elementary-school population which is overage is retarded because of inability to do the required work; second, that of the one-third of our high-school pupils who drop out of school without having completed the work of the first year, a large part drop out on account of inferior mental endowment; third, that at the present time graduation from high school is well beyond the intellectual capacity of a large proportion of the children, for such graduation seems to require a minimum intelligence quotient of 90, while a third of our children test that low or lower. Certainly this one-third of our school population which is evidently not suited for the regular work of our schools is entitled to instruction in subjects which require only such ability as is possessed. Shall these subjects be largely industrial with such related drawing, English, mathematics, science, etc., as can be learned?

This study was undertaken for the purpose of determining within a limited field of shop work the relative chances of success

for the boy with a high I.Q. and the one of low-grade intelligence. The specific problem was the determination of the correlation between the intelligence quotients of an unselected group of vocational-class boys, as measured by the Stanford Revision of the Binet-Simon Scale, and their progress in learning the fundamental operations on the engine lathe. The boys in the group, twenty-five in number, were all without previous experience in shop work of any kind except the regular grade-school manual training. In school grades they ranged from low seventh to low ninth. Their chronological ages ranged from fourteen to sixteen years, and their mental ages from ten years and six months to sixteen years and seven months. Their intelligence quotients as determined by the Stanford-Binet Scale ranged from 71 to 111, with an average of 90 for the group. The facts concerning the group are shown in Table I.

The projects included in the course in shop work were ten in number. They were selected and arranged in order upon the basis of the learning difficulties presented. The evaluation of the learning difficulties and the arrangement of the projects were made by an experienced machine-shop instructor. Each project was executed by the student from a blue-print and an instruction sheet. The written instructions were supplemented by oral instructions when necessary. All of the boys completed the projects in the same order. The operations involved in completing the ten projects were centering; plain cylindrical turning, work held between centers; turning to a shoulder; thread cutting; boring, turning, reaming, and facing with work held in chuck; turning between centers on arbor. None of the work required greater accuracy than plus or minus two-thousandths of an inch.

The main difficulties involved were in caring for and manipulating the machine so as not to cause injury to the machine or accident to the operator; regulating the feeds and speeds for the different jobs; advancing tool for proper depth of cut; using scale, micrometer, and inside and outside calipers; adjusting gears for thread cutting; using thread-cutting gauge, backing-belt in thread cutting, and graduated collar on feed screw for depth of cut; reading simple drawings; and making practical applications of fractions and

decimals. To win a high score required that the learner be quick in movement; be able to follow simple directions, both written and oral; have a fair sense of touch in the use of gauges and measuring instruments; be able to comprehend a simple blue-print; have

TABLE I

CHRONOLOGICAL AGE, MENTAL AGE, AND I.Q. OF TWENTY-FIVE BOYS IN A REGULAR JUNIOR HIGH SCHOOL CLASS IN ENGINE-LATHE WORK

Boys	CHRONOLOGICAL AGE		MENTAL AGE		I.Q.
	Years	Months	Years	Months	
1.....	15	0	16	7	111
2.....	14	0	15	0	107
3.....	14	5	15	3	106
4.....	14	0	14	1	101
5.....	15	4	15	0	98
6.....	14	11	14	2	95
7.....	14	11	14	2	95
8.....	14	5	13	6	94
9.....	15	11	14	10	94
10.....	15	2	14	2	93
11.....	14	8	13	5	92
12.....	14	3	13	1	92
13.....	14	5	13	2	92
14.....	14	8	13	4	91
15.....	15	4	13	11	91
16.....	15	3	13	9	91
17.....	14	11	12	10	87
18.....	14	8	12	8	86
19.....	14	1	12	0	85
20.....	14	4	12	0	84
21.....	16	0	12	3	77
22.....	15	1	11	5	76
23.....	15	3	11	5	75
24.....	14	8	10	8	73
25.....	14	8	10	6	71
Median.....	14	8	13	5	92

such a knowledge of mathematics as would enable him to compute gear ratios and thread proportions; and possess a moderate amount of physical strength.

The conditions in the shop where the experiment was made were very good. All of the equipment was new. No boys other than those included in the study were in the shop. Not all machines were of the same type, but frequent changes were made from one machine to another in order to offset any advantage which one machine might have over another. The instructor in charge of

the shop was a highly skilled mechanic and a graduate of a technical school, with several years' practical experience as well as two and one-half years' teaching experience in the work covered by this instruction group.

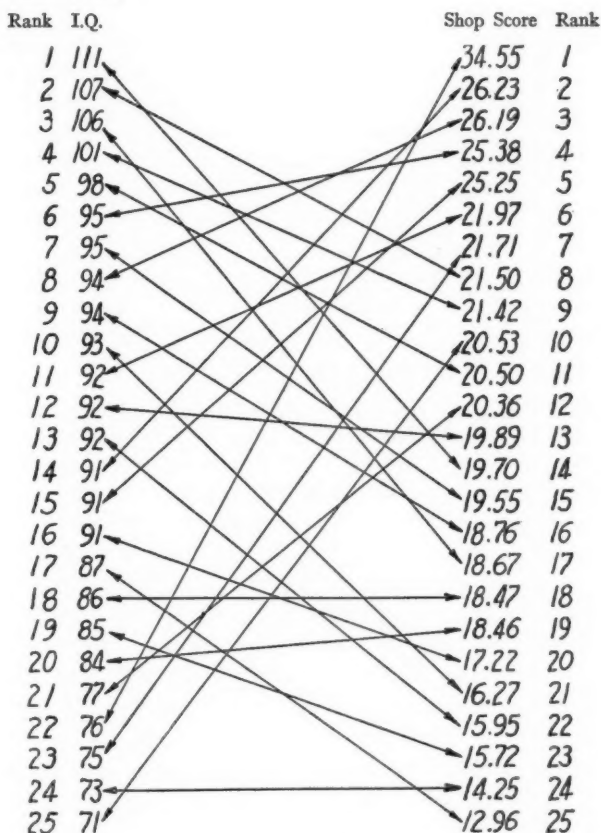


FIG. 1.—Correspondence between I.Q. and shop score of twenty-five junior high school boys.

The boys were scored upon their time cards with a percentage grade which took into account the accuracy and finish of the work as well as the judgment and skill used in manipulating the machine. This score was then divided by the time on the job so that the final

grade involved both quality and speed. For example, a boy on Job 1 earned a percentage grade of 90; his time on the job was four and one-half hours; his score, then, was 90 divided by 4.5, or 20. The average of the scores for the ten projects was then taken as the final score for each boy. Figure 1 shows the intelligence quotients and shop scores arranged in order from the highest to the lowest with lines drawn from each boy's intelligence quotient to his shop score. For instance, Case 1 has an I.Q. of 111 or Rank 1 in intelligence. A line is drawn from 111 to 19.70, the pupil's shop score being ranked the fourteenth in the distribution of achievement scores. A glance at the figure with its maze of cross lines reveals the fact that there is very little correlation between the I.Q.'s and the shop scores. As determined by the rank difference method, the coefficient of correlation is  $+ .14$ , an almost negligible amount of correspondence.

The results indicate clearly that such fairly simple mechanical work can be done successfully by a boy with a rather low I.Q. and that, in general, the boys of low-grade intelligence turn out a better grade of work than the brighter boys. Inasmuch as the work covered in the experiment very fairly represents the type of work usually done in high-school and vocational-school machine shop classes, it is fair to conclude that such classes offer an exceptional opportunity for those who at present are the misfits in the traditional subjects. Furthermore, it is demonstrable that only such ability as is required for success in completing the experimental projects is required for success within a very large range of actual industrial activities. The conclusion must not be drawn, however, that there is no opportunity in the machine trades for men of high intelligence. The finer grades of work in tool- and gauge- and model-making call for abilities which are not demanded in this study.

## Educational Writings

### REVIEWS AND BOOK NOTES

*The scientific study of learning.*—A great many experiments have been performed in recent years in laboratories for the study of general psychology and educational psychology for the investigation of the process of learning, that is, the improvement of the ability to perform some act through practice. From such experiments there has been developed a considerable body of conclusions, many of which have a bearing on educational procedure. The aim of a recent book<sup>1</sup> is to summarize all this work and to show its bearing on education.

The book begins in a somewhat abstract way by discussing the nature of learning in general. To simplify the matter, all kinds of learning are classified under two heads, the formation of habits and the acquisition of knowledge. The physiology of both types of learning is briefly described as the establishment of preferential routes, and learning is described, in general, as connecting. It seems to the writer better either to treat all learning as fundamentally representing the same process, as suggested by the last statement, or to distinguish a larger number of types. Knowledge is made to cover types of learning which do not well belong under it, such as reasoning.

The presentation of the factual material begins with the discussion of the learning curve, in connection with which the form of the curve, its variations, limits, and causes are described. This discussion is rather brief, which perhaps accounts for the fact that the chief explanation of the form of Swift's learning curve in ball-tossing is not mentioned—the explanation being that the amount of practice in successive learning periods increases enormously. Brevity perhaps also accounts for the easy dismissal of Bryan and Harter's explanation of plateaus in the learning curve.

Chapters follow on the distribution of practice time and on general factors in improvement, such as attention, attitude, and incentives. An additional chapter, entitled "Special Factors," discusses drill in the schoolroom. Under the title "Ideational Learning" the author discusses a number of matters which he classifies under acquiring knowledge. This discussion is taken up largely with the definition, classification, and theoretical interpretation of the various particular kinds of learning which are brought under this head.

<sup>1</sup> WILLIAM HENRY PYLE, *The Psychology of Learning*. Baltimore: Warwick & York, 1921. Pp. 308.



This account will give some notion of the way the book is organized. There is an alternation between accounts of the results of experiments and theoretical discussions. Other topics which are discussed are memory and memorizing, the correlation between learning abilities, the methods of measuring capacity for learning, transfer of training, fatigue, the relation of instincts to learning, and the fundamentals of statistics.

In general, the parts of the book which summarize the experimental literature are the most satisfactory. These parts might have been amplified somewhat and made more systematic. For example, individual differences are treated in a chapter under the appropriate title and also in the chapter on "Measuring Learning Capacity." In the chapter on individual differences, again, data on differences in general capacity are presented without distinguishing them from differences in learning capacity. The mechanics of the book are also rather unsatisfactory. For instance, in many of the figures the numerals are so small as to be indistinguishable, and the scales are not adequately described.

In summary, the book serves a useful purpose as a fairly comprehensive and succinct account of the scientific studies of learning, but it suffers from lack of systematic, careful organization and clearness and concreteness in presentation.

FRANK N. FREEMAN

*Defining the problems of a school unit.*—The capacity of the American public school to adapt itself both to new conditions developing within the community it serves and to new conceptions of ideal and purpose in educational thought is becoming annually more apparent through accounts of successful experience with various types of reorganization or extension of its activities. Among the more delicate of the adjustments which a broadening aim in public education has required is the refashioning of curriculum, program, and administrative policy to fit the varying endowments and interests of an unassorted student population. This readjustment has been rendered the more difficult, moreover, by the fact that whatever treatment is found to be appropriate to the individual needs of the pupils with whose training the school is charged, must likewise be made to comport with the general community situation with respect to social and industrial opportunity, provision of facilities for teaching, and the legal or administrative limitations obtaining in any given unit of school control.

The details of organization and planning necessitated by the effort to make the school serve the best interests of the pupils enrolled, under the conditions existing in the community which maintains it, are well illustrated by an analysis<sup>1</sup> presented by the principal of an elementary-school unit in a large city school system.

<sup>1</sup> PHILIP ALBERT BOYER, *The Adjustment of a School to Individual and Community Needs*. Philadelphia: University of Pennsylvania, 1920. Pp. 141.

Beginning with a statement of principles of efficiency which characterize scientific management in industry, the author undertakes to apply these principles to the operation of his school plant by first making a complete analysis of the conditions which must be met. Thus, there is noted the composition of the school and the community populations; working, housing, and health conditions; the physical conditions of the school plant; legal, financial, and administrative factors; the attendance, grouping, and promotion of pupils; and the achievement of pupils on a number of standard tests.

In the light of the conditions revealed by this survey, there is then formulated a statement of the educational aims which the administrator should have in mind in the work of planning and directing the activities of this particular school. These aims are stated in terms of the distinguishing characteristics of the school's community and recognize the need for a specified type of training in moral, health, and home habits, in vocational efficiency, and in the essentials of the school subjects. There follows a detailed outline of the various readjustments that can be made under present conditions which would aid in more effectively realizing the objectives which have been defined. In these readjustments it is assumed that the first six years of school work should suffice for the mastery of the minimum essentials by the pupils of this school, leaving the last two years for a more specific training in accordance with the individual's particular needs. The proposed reorganization for the seventh and eighth grades, then, includes a modification of the standard courses, emphasis upon prevocational training, increased emphasis upon health training, and more flexible classification of pupils.

Realizing that many desirable adjustments are precluded by present conditions of equipment and organization, the author prepares a detailed scheme of reorganization on the basis of suggested improvements in conditions. First there is presented a comparative analysis of budget requirements under present and proposed conditions, specifying the additional appropriation requisite for each change that is recommended, allowing both for the normal increases in the number of pupils and teachers and the increased costs due to the general commercial situation. The present equipment is fully described in terms of the service it is supposed to render in every case in which a change involving additional expenditure is proposed. Thus, each suggested readjustment of the school to the pupils' needs is specific in character, and both the necessity for and the cost of the change are explained in detail. Equally definite are the suggestions of measures looking to increased co-operation and understanding between school and community. These include the employment of a visiting teacher, the opening of the school buildings for the use of the community gatherings and providing accommodations therefor, and the establishment of a vacation school.

The report will be read with interest by school men and by laymen alike because it reveals the complexity of the problem the solution of which is a part

of the educational aim of every enlightened school community and because it presents many valuable suggestions of effective procedure.

*Supervision tested.*—A most convincing discussion of the effectiveness of supervision and its practicability for rural schools is given in the account<sup>2</sup> of an experiment with rural school supervision in Brown County, South Dakota. The experiment was designed, first, to determine quantitatively the effect of supervision and, second, to determine the practicability of supervision for rural schools.

In the first chapter, the problem, the method, and the results are stated. Specifically, the problem is to determine the effect of supervision, using the "Zone Plan." The method used is that of equivalent groups. Two groups, whose equivalence is determined or whose differences are ascertained and allowed for, are compared in their abilities to perform certain work. It is found that the children in the supervised schools advanced 194 per cent as far as those in the unsupervised schools. In chapter ii, it is shown that the conditions under which the experiment took place were sufficiently rigorous to insure reliable results. In chapter iii, the equivalence of the two groups is dealt with, and it is shown that there is not sufficient difference to alter these results materially. The plan of supervision is as follows: the supervisor divides his entire supervisory district into territorial units, confining his activities to one such unit for a week, passing to the next area the next week, etc. The purpose of this territorial organization is to "provide for systematic supervision of classroom instruction, for convenient, effective, and democratic teachers' meetings, and for the development of a community consciousness on the part of rural communities with a view to inspiring and facilitating more effective social, educational, and commercial action" (p. 19). This plan of supervision implies a calendar of major events for the entire year. The program used during the period of the study is given, and the supervisory activities engaged in are shown in considerable detail.

The success of the plan is attributed in a considerable degree to the fact that the supervisor inspired and took part in community activities. The reasons for these activities and a description of them are given in chapter v.

While the main object of the study was to secure quantitative evidence concerning supervision, it is also shown that certain factors which condition school work but which do not lend themselves to measurement were benefited by the supervision. For example, it is shown that the interests of the parents were stimulated, and an increase in the professional spirit of the teachers was evident. These features are described in chapter vi. The statistical evidence is presented in chapter vii.

A discussion of the results and the supervisory devices through which they were secured is given in chapter viii, while the application of the principles of

<sup>2</sup> MARVIN SUMMERS PITTMAN, *The Value of Supervision*. Baltimore: Warwick & York, 1921. Pp. x+129.

the zone plan is given in chapter ix. This deals with topics such as the sphere of the supervisor and how he should organize his time and shows how the use of local talent, publicity, and such agencies may be enlisted for the success of a like understanding.

The work is valuable in that it demonstrates a workable plan for rural-school supervision at reasonable cost. It might profitably be used by district, county, and state superintendents in obtaining financial aid for supervisory undertakings. Moreover, it shows by objective evidence that supervision of elementary subjects produces results sufficient to justify the cost.

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*Modern History.*—Though the author of a new book<sup>1</sup> on United States history does not indicate the design of his work, it may be inferred that he is seeking to serve the busy intelligent citizen who desires to be informed as to the general trend of affairs in his country since 1877. He probably has in mind, also, the large undergraduate classes of the colleges and universities of the country and possibly the reference shelf of the best high schools.

The style, which is simple, lively, and forceful, and the general scope of the book are in a measure adapted to any or all of these purposes. The author provides numerous bibliographical notes, which reveal an unusual knowledge of the sources of the period, and a more exhaustive index than is usually found in works of this nature. The book includes discussions of literature, ideals, sports, amusements, and many other topics not ordinarily found in historical texts; it contains useful and interesting information which it would be difficult to find elsewhere. To the style, to the content, and to the mechanical aids one will find little objection.

The method of treatment is somewhat disappointing, however. It might have been hoped that a man of Professor Paxson's equipment would present the unfolding of several of the outstanding and characteristic movements of the last half-century in such a way as to leave in the mind of the ordinary layman a definite conception of the trend of the times. Instead of this, one finds that he has rigidly adhered to the chronological order, presenting fifty-seven chapters the headings of which do not always give a definite idea of the topics discussed. As a result, no single movement is given a complete, consecutive treatment, and the historical novice at least must be left in considerable confusion. Careful students of the recent history of the United States, like Professor Paxson, doubtless have noted certain well-defined processes, movements, and tendencies, such as the growth of large-scale industries and of organized labor; the struggle between capital and labor; the reform movement which has attempted to free politics from the undue influence of big business, and to apply scientific methods to governmental administration; the transition from an individualistic to a socialized democracy, accompanied by the enlargement of the powers of the state; the growing interest in and influence

<sup>1</sup> FREDERIC L. PAXSON. *Recent History of the United States*. Boston: Houghton Mifflin Co., 1921. Pp. xii+603.

upon world-politics which virtually made it inevitable that the United States be drawn into the Great War. But one looks in vain through this book for an orderly, uninterrupted treatment of these topics. Of course, they may be traced to their origin and followed to the present by running the index, but only the mature student who knows of these movements will do this.

A few illustrations will serve to make this defect very evident. Chapter viii, which is entitled "Reform," is confined to the discussion of the reforms of some two or three years subsequent to 1882, just as if the author would not be compelled to discuss reform in a large number of subsequent chapters. Another chapter entitled, "Extension of Government Control," is confined almost entirely to the enlargement of the powers of the federal government; but after the interposition of almost a hundred pages, the author returns to the subject with a chapter on "Federal Control." Chapter ii presents a discussion of "Civil Strife"; chapter xiii is entitled "Labor Ideals"; chapter xx is headed "Industrial Unrest"; the title of the forty-sixth chapter is "Labor"; and a half-dozen other chapters, with headings which do not faintly suggest the idea, give considerable attention to labor and its problems. Five chapters separate a discussion on "World Policy" from a treatment of "World Power."

Professor Paxson, nevertheless, shows a very unusual grasp of the details of the recent history of the United States and, with the possible exception of an infatuation for Roosevelt, seems free from all bias. Perhaps he should not be censured too severely for not having presented these details so as to set forth with unerring perspective an orderly unfolding of underlying forces, a neat progression of events. This is the great difficulty confronted by writers of contemporary history, and few indeed have been able to surmount it.

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*A contribution to curriculum-making technique.*—Public-school officials, both lay and professional, are beginning to realize the need of working their way out of the wilderness of curricula in which they now find themselves. The method of egress from this maze is developing slowly but encouragingly through the various studies based on scientific analysis of the objectives of education. There is an undisputed demand for the particularization of these objectives if our educational processes are to be fruitful. Even a hasty analysis of any industrial pursuit yields a rich variety of specifics upon which to base curricula.

A recent study<sup>\*</sup> in the field of transportation, made under the direction of the University of California, has added materially to the fund of information needed by vocational counselors and school administrators and has contributed

<sup>\*</sup> R. E. BERRY, *An Analysis of Clerical Positions for Juniors in Railway Transportation*. "Part-Time Education Series, No. 6," Bulletin No. 5. Berkeley, California: University of California. Pp. 104.

directly to the technique of industrial analysis. The author states that the study was made "for the purpose of giving teachers and others interested in the education of employed youth detailed information in regard to the work performed by junior clerks in the general offices of a large railroad company, and in regard to the training necessary for their work" (p. 6). In Part I twenty varieties of work are analyzed, and four sets of facts are presented concerning each, viz., general facts concerning the job, duties, required knowledge arranged in instructional units, and promotional possibilities. Perhaps the most helpful suggestions appear in the "Instructional Units" for each of the jobs analyzed. These units are specific and teachable.

Part II presents in a brief but usable manner a series of background topics together with seven sample lesson-plans. For the most part these deal with subjects which might be included in the curricula of full-time schools, so fundamental is their relation to modern business and civic life.

The study is well worth scanning by school officials and is particularly valuable for vocational counselors and others upon whom may fall the task of outlining a program of study for youths preparing for clerical work. It will also be suggestive to those who are about to undertake analyses of other forms of industrial activities.

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*The origin and growth of language.*—Language study, both foreign and English, consumes a larger proportion of the student's time as he goes through high school and college than any other subject of the curriculum. There has been a growing demand that this language work have a better historical background, that it be more unified, and that it be more largely motivated for the student. It is thought that a course in general linguistic development will meet this need. To satisfy this demand, Professors Scott and Carr have written a new type of textbook.<sup>1</sup>

The book is for use in high schools, the authors stating that it may be used for an independent semester course or for several years in connection with the English courses. One wonders why it could not profitably be used in connection with foreign-language courses.

There are two general divisions in the treatment of the subject. First, there is the historical statement of the origin of language together with its various lines of development. This is related in a very simple and interesting manner. In the second division, the various factors that have brought about changes in language are presented. This is richly illustrated and of necessity becomes more technical; however, the authors have avoided becoming too technical for the accomplishment of their purpose. Language is the greatest tool for thinking. We need to become much more intelligent and efficient in its use. The student has a right to know the values of language study. Such

<sup>1</sup> HARRY FLETCHER SCOTT and WILBERT LESTER CARR, *The Development of Language*. Chicago: Scott, Foresman & Co., 1921. Pp. 215.

a book as this, if properly handled by the teacher, will contribute much to such an end.

On the whole, this pioneer book is to be highly commended. However, there seems to be a slight repetition in chapters xii and xiii dealing with word changes. Chapter xvi on "World Languages" impresses one as not being quite adequate.

The great demand today is that the knowledge we give students shall function to a larger degree. Language work must be subjected to this test. This book is in the right direction toward meeting that demand.

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*Latin texts with English supplementary reading.*—The relatively small amount of Latin text which pupils usually read in the early years of the course necessarily leaves a very incomplete knowledge of the books from which material has been selected. Summaries given by the teacher are usually the only available means of extending the pupil's knowledge of the author beyond the narrow range of his own reading. A series of texts now being prepared by a number of teachers of the classics in England aims to meet this difficulty by giving selected chapters for translation and by providing an English version of the intervening passages.

Two recent volumes in this series present in this English-Latin form the last two books of *Caesar's Gallic War* and *Sallust's Jugurtha*. In the first volume<sup>1</sup> issued in accordance with this plan (Books IV and V of *Caesar's Gallic War*) it was stated that the editors proposed to translate about two pages of text for every page that was left in Latin. A somewhat larger proportion of Latin is given from Books VI and VII of *Caesar*, but the *Jugurtha*<sup>2</sup> is presented on approximately a two-to-one basis. The books of this series are provided with notes and vocabularies. An introduction to the *Caesar* selection, covering twenty-two pages, gives a sketch of Caesar's life and of the Roman military organization, while a briefer introduction to the *Jugurtha* deals with the life and literary work of Sallust, the country of Numidia, and political situations at Rome in the time of which Sallust wrote.

If teachers are willing to overlook the fact that the long vowels are unmarked in the Latin text, these books may find a place in American high schools in filling out a semester or a year in which the texts chosen for reading leave time for additional material.

H. F. SCOTT

OHIO UNIVERSITY

<sup>1</sup> R. W. LIVINGSTONE and C. E. FREEMAN, *Caesar's Gallic War, Books VI and VII*. Oxford, England: Clarendon Press, 1921. Pp. 159.

<sup>2</sup> H. E. BUTLER, *Sallust, The Jugurthine War*. Oxford, England: Clarendon Press, 1921. Pp. 151.



*A general history.*—Many books have been written on separate periods of the world's history, but very few writers have attempted to give a connected story of economic development and the important factors which have been influential in determining national existence. The purpose and scope of a recent book<sup>1</sup> from the latter point of view are well described in the introduction:

All that has been done here is to trace, very simply, the line of economic development throughout the rise and fall of Empires, showing in closest connection with this theme the general principles of cause and effect, as one nation after another rises, comes to the front, and passes away into obscurity [p. v].

The book is divided into three parts. Section I deals with the empires of the ancient world, treating that stage of development which preceded the days of history and the ancient civilizations of the East, Egypt, Babylonia, Assyria, Persia, Phoenicia, and Judea. The second section reviews the development of the medieval world, dealing, first, with those factors which contributed to the downfall of the Roman Empire, second, with the rise and fall of the Empire of Islam and, third, with the rise and development of the many new nations which were formed from the scattered and lost tribes in Asia and Europe. In the third section, the discussion is devoted to the modern world which is distinguished from the ancient world on account of the rise of national feeling and the beginning of the expansion into the new world. Here are treated very briefly those forces which operated in the development and growth of the nations and those causes which disrupted Europe and began the period of discovery, exploration, and exploitation. The effects on Europe of the discovery and exploration of India and America are clearly outlined, and the methods by which the European states became great powers are described. The effects upon the world of the industrial revolution in England and of the political revolutions in France are clearly represented. In the closing chapter, the factors which precipitated the world-war are outlined.

The organization of the material and the style of the book make it serviceable for reference or textbook use.

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*Literature for commercial pupils.*—In this age of specialization there is a tendency to organize courses in literature in such a manner that they may contribute directly toward the objectives of a special field. Commercial English classes have hitherto suffered from the lack of a carefully selected body of specialized reading material which would serve to emphasize the highest type of commercial ideals. In a recent book<sup>2</sup> by the president of Girard College, there is gathered a group of selections from famous literary authors which represent the highest type of commercial English.

<sup>1</sup> E. M. WILMOT-BUXTON, *A Short World History*. New York: E. P. Dutton & Co., 1921. Pp. viii+219. \$2.00.

<sup>2</sup> CHEESMAN A. HERRICK, *English Readings for Commercial Classes*. New York: Macmillan Co., 1921. Pp. 197.

The book contains selections from a number of early English authors, typical of which are "Piers Plowman" by Langland, "A Fourteenth Century Merchant" from Chaucer's *Canterbury Tales*, "Cathay" by Maundeville, "Advantages of Commerce" by Hakluyt, and Shakespeare's *Merchant of Venice*. The business and commercial elements in these early writings are outstanding. Later selections from Thomas Mun, Daniel Defoe, John Ruskin, Sir Arthur Helps, and John Lubbock are presented, illustrating their ideas of commercial activities.

In the latter half of the book the author cites essays and writings from some leading men of America. Among these are "Wealth and the Modern World" by Thomas Reed, "What We Mean by Business" by Harry Pratt Judson, *A Message to Garcia* by Elbert Hubbard, "The Choice of a Career and Rewards for Effort" by Grover Cleveland, "Education and Business Success" by William H. Taft, and "Who Sneers at Commerce" by Henry van Dyke.

The selections are remarkable for both content and literary value. They introduce the commercial student to the work of early English authors, illustrating their ideals and principles of commerce, and showing the evolution and development of ideal business principles. Later, through selections from American authors, the pupil gains an insight into the highest business ideals of the present age.

The work is worthy of consideration by anyone who is interested in this field. It will doubtless render a valuable contribution toward the standardization of English literature for commercial classes.

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*Suitable plays for the classroom.*—Although teachers very generally realize the value of dramatic work in the high school, practical difficulties have prevented most schools from entering largely into this type of activity. A long step in the direction of overcoming some of these obstacles has been made by the publication of a high-school text<sup>1</sup> dealing with classroom interpretation of plays.

The purpose of the book is to make dramatic interpretation in the classroom an entirely practical phase of the English work of the high school. The author takes a broad educational view of this problem and suggests that a proper dramatic education is an important training for life, expressing himself as follows:

After all, the biggest thing in the lives of our boys and girls is going to be the task of being men and women, and any school study that deals with the workings of the human mind and heart is of the utmost value to them. To a certain extent we are all properly players in our daily lives [p. 264].

The book is divided into three parts. The first part consists of a discussion of the classroom interpretation of a play. The author's ideas as to "getting

<sup>1</sup> EDWIN VAN B. KNICKERBOCKER, *Plays for Classroom Interpretation*. New York: Henry Holt & Co., 1921. Pp. xviii+264.

inside the character" while producing the various appeals are definite and clear, showing his wide experience in this kind of class work. In the second part is found a list of seven plays, six of which are one-act plays, while the other is a selection, quite complete in itself, from *Ulysses*. These plays were selected because of their suitability for this type of work, the subject-matter of each being adapted to the interests of high-school pupils, and the action required being simple in character. The plays are chosen from a wide enough field to meet the varying needs of the teacher, while specific suggestions are included which should prove beneficial to the instructor in the interpretation of the plays.

The book is a contribution to a comparatively new field, since most of the previous dramatic work in the high school has included plays which were either too long or which had rôles far beyond the power and maturity of the average pupil. In addition to these actable plays, Mr. Knickerbocker gives a method of procedure in classroom interpretation which is suggestive and stimulating.

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*Social sciences in high schools and industrial classes.*—The passage of the Smith-Hughes Act gave a great impetus to social and industrial education in the high schools and in the continuation schools. The movement for better civic and industrial training, however, has been seriously handicapped by the lack of definite courses of study of the practical, concrete type. The Vocational Association of the Middle West realized the urgent need for such courses of study and set a committee of its membership to work upon the problem. The latest report of this committee is set forth in the form of a monograph.<sup>1</sup>

The monograph contains a detailed outline of a series of thirty-three lessons and a very complete bibliography of reading materials for each lesson in the series. The problem of the best method of presenting these lessons is discussed, and the different plans that are now being followed in different situations are described. Particular attention is given to the problem of method in the continuation schools. A sample lesson is given in some detail. The relation of social science to the whole course of study is given in a rather detailed analytical form. The outline of this analysis was prepared in the light of certain aims which are set forth very clearly in the introductory paragraph of that part of the report.

The specific aim of shopwork is to teach the correct use and care of the tools of a given trade; to impart knowledge of its materials and processes; to develop a reasonable degree of skill in the use of these tools and the performance of these processes; and to impart such knowledge as comes through the making and interpretation of drawings and specifications common to the trade. The aim of the related technical

<sup>1</sup> *Report of Committee on Teaching Social Science in High Schools and Industrial Classes*. "Monograph on Vocational Education," 1921 Series, No. 1. Vocational Education Association of the Middle West, L. W. Wahlstrom, Secretary, 1711 Estes Avenue, Chicago. Pp. 30.

instruction is to develop the ability to think more intelligently and more scientifically regarding the technical processes employed in the particular industry and to inculcate general industrial intelligence. The purpose of the so-called academic courses is intelligent citizenship and personal culture [p. 17].

The definiteness and concreteness of the subject-matter presented in this monograph will be of very great help to teachers of social science in all high schools and continuation schools. The discussion of the problem of method is illuminating, and the suggestions will prove stimulating and constructive. The discussion on the relation of the social-science courses to technical and academic subjects will be of value to administrators in working out the curricula and programs of their schools.

### CURRENT PUBLICATIONS RECEIVED

#### GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

- BEMENT, ALON. *Figure Construction*. New York: Gregg Publishing Co., 1921. Pp. xii+124. \$2.50.
- BERRY, R. E. *An Analysis of Clerical Positions for Juniors in Railway Transportation*. "Part-Time Education Series No. 6," Bulletin No. 5. Berkeley, California: University of California, 1921. Pp. 104.
- ENSIGN, FOREST CHESTER. *School Attendance and Child Labor*. Iowa City, Iowa: Athens Press, 1921. Pp. ix+263.
- LEWIS, E. E. *Scales for Measuring Special Types of English Composition*. Yonkers-on-Hudson, New York: World Book Co., 1921. Pp. v+142. \$1.20.
- MAXWELL, C. R. *The Selection of Textbooks*. Boston: Houghton Mifflin Co., 1921. Pp. x+139. \$1.35.
- PYLE, WILLIAM HENRY. *The Psychology of Learning*. Baltimore: Warwick & York, 1921. Pp. 308.
- Spelling Survey in the Schools of Newark, New Jersey*. Newark: Board of Education, 1920. Pp. 32.
- THORNDIKE, EDWARD L. *The New Methods in Arithmetic*. Chicago: Rand McNally & Co., 1921. Pp. viii+260.
- TIGERT, JOHN JAMES. *The Teaching of Civics*. Washington: Bureau of Education, 1921. Pp. 10.
- Virginia Public Schools, Part Two: Educational Tests*. Yonkers-on-Hudson, New York: World Book Co., 1921. Pp. xii+235. \$2.40.

#### BOOKS PRIMARILY FOR HIGH-SCHOOL TEACHERS AND PUPILS

- Correspondence Manual*. Chicago: LaSalle Extension University, 1921. Pp. 40.
- DANCE, E. H. *A Constructive Note-Book of English History*. Oxford, England: Basil Blackwell, 1921. Pp. xii+110.

- DOLTON, CLARA S. *Mon Petit Livre Français*. New York: Longmans, Green & Co., 1921. Pp. vi+86. \$0.65.
- DUNN, ARTHUR W. *Community Civics for City Schools*. Boston: D.C. Heath & Co., 1921. Pp. x+582.
- ERMELING, WILLARD W.; FISHER, FERDINAND A. P.; and GREENE, GEORGE G. *Mechanical Drawing*. Milwaukee: Bruce Publishing Co., 1921. Pp. 78. \$0.45.
- HUFF, BESSIE M. *A Laboratory Manual for Journalism in High Schools*. Muskogee, Oklahoma: Star Printery, 1921. Pp. viii+97.
- JACKSON, BENNETT B.; DEMING, NORMA H.; and BEMIS, KATHERINE I. *Opportunities of Today for Boys and Girls*. New York: Century Co., 1921. Pp. xii+274.
- MYERS, P. V. N. *General History*. Boston: Ginn & Co., 1921 [revised]. Pp. xiv+711+xxxiii. \$2.00.
- REED, THOMAS HARRISON. *Form and Functions of American Government*. Yonkers-on-Hudson, New York: World Book Co., 1921. Pp. xvi+549.
- Standard Library Organization and Equipment for Secondary Schools*. "New York State Library School Bulletin," No. 45. Albany: University of the State of New York, 1920. Pp. 39.

#### BOOKS PRIMARILY FOR JUNIOR HIGH SCHOOL TEACHERS AND PUPILS

- DEMING, ALHAMBRA C. *Methods and Material for Composition*. Chicago: Beckley-Cardy Co., 1921. Pp. 232.
- POTTER, MILTON C.; JESCHKE, H.; and GILLET, HARRY O. *Oral and Written English, Complete Book*. Boston: Ginn & Co., 1921. Pp. vi+418+xxxiv.

#### PUBLICATIONS OF THE UNITED STATES BUREAU OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

- Americanization in Delaware, 1920-21*. "Bulletin of the Service Citizens of Delaware," Vol. III, No. 2. Newark, Delaware: Service Citizens of Delaware, 1921. Pp. 59.
- DOERSCHUK, BEATRICE. *Women in the Law*. New York: Bureau of Vocational Information, 1921. Pp. viii+138. \$0.50.
- Recent issues of the Bureau of Education:
- Bulletin No. 39, 1920—*Facilities for Foreign Students in American Universities*.
  - Bulletin No. 48, 1920—*Statistics of State Universities and State Colleges*.
  - Bulletin No. 5, 1921—*Part-Time Education of Various Types*.
  - Bulletin No. 10, 1921—*The Visiting Teacher*.
  - Bulletin No. 14, 1921—*Education of the Deaf*.
  - Bulletin No. 16, 1921—*Special Features in the Education of the Blind during the Biennium 1918-20*.

- Bulletin No. 17, 1921—*Educational Boards and Foundations, 1918-20.*  
 Bulletin No. 19, 1921—*Kindergarten Education, 1918-20.*  
 Health Education Bulletin No. 10—*Suggestions for a Program for Health Teaching in the Elementary Schools.*  
*Report of the High School Visitor for the Year 1920-21.* Urbana, Illinois: University of Illinois, 1921. Pp. 68.  
 TOLMAN, MARY H. *Positions of Responsibility in Department Stores and Other Retail Selling Organizations.* "Studies in Occupations," No. 5. New York: Bureau of Vocational Information, 1921. Pp. 138. \$0.50.  
*Twenty-first Annual Report of the Director of Education.* Manila, Philippine Islands: Bureau of Printing, 1921. Pp. 175.

## MISCELLANEOUS PUBLICATIONS

- ADAMS, ELIZABETH KEMPER. *Women Professional Workers.* New York: Macmillan Co., 1921. Pp. xiv+467. \$2.50.  
*Annual Report of the Smithsonian Institution, 1919.* Washington: Government Printing Office, 1921. Pp. xii+557.  
 BAKER, GEORGE P. *The Pilgrim Spirit.* Boston: Marshall Jones Co., 1921. Pp. 136.  
 BOK, EDWARD. *A Dutch Boy Fifty Years After.* New York: Charles Scribner's Sons, 1921. Pp. xxii+214.  
 BROWN, ABBIE FARWELL. *Round Robin.* New York: E. P. Dutton & Co., 1921. Pp. xxi+310. \$2.00.  
*Games and Play for School Morale.* Arranged by Mel Sheppard and Anna Vaughan. 1 Madison Avenue, New York: Community Service, 1921. Pp. 48. \$0.25.  
 PRESCOTT, DELLA R. *A Day in a Colonial Home.* Boston: Marshall Jones Co., 1921. Pp. xiv+70.  
*Selected Stories from Kipling.* Edited by William Lyon Phelps. New York: Doubleday, Page & Co., 1921. Pp. xiv+355. \$1.25.  
 SMITH, ROY L. *Moving Pictures in Churches.* New York: The Abingdon Press, 1921. Pp. 74. \$0.35.  
 STONE, DAVID. *Yank Brown, Halfback.* Newark, New Jersey: Barse & Hopkins, 1921. Pp. 224. \$1.00.  
 WELLS, H. G. *The Outline of History.* New York: Macmillan Co., 1921 [revised]. Pp. xxi+1,171. \$5.00.

